Claes Brundenius · Bo Göransson
José Manoel Carvalho de Mello *Editors*

Universities, Inclusive Development and Social Innovation

An International Perspective

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Endorsements

Praise for Universities, Inclusive Development and Social Innovation

Increasing inequality causes serious social and political tensions in society. This book offers a new perspective on the roots, reproduction and possible political response to inequality. It links increasing inequality to the access to knowledge and learning. A series of national case studies analyze how universities respond to increasing inequality. They show that while most countries have seen progress in terms of inclusiveness through broadening the recruitment of students, there are wide differences when it comes to how and to what degree research agendas have been directed toward social needs and social innovations. The book is of special interest for experts in charge of science and technology policy and for university managers. It constitutes a welcome counterweight to the current tendency to push national university systems toward marketization

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In a world with growing inequality, universities are challenged to make a difference. The practitioners that contribute to this book show how this is done in their institutions. The challenges they face are clearly presented in the introductory and concluding chapters. This is a book worth reading for anyone working on social innovation and inclusion in or outside of universities in the developing or developed world.

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Acknowledgments

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Chapter 1
Introduction

Claes Brundenius, Bo Göransson, and José Manoel Carvalho de Mello

This volume is the third in a series by the UniDev network dealing with steadily new challenges and new roles for the universities in economic and social development. UniDev (Universities in Development—the Evolving Role of Academic Institutions in Innovation Systems and Development) is an international research group with teams in 14 countries.[1] In the last volume, *Universities in Transition* (Göransson & Brundenius 2011), the focus was on the three missions of universities, that is, teaching, research, and the third mission. Especially the last mission turned out to differ in scope and meaning in many countries as was also explored by the UniDev members in a special issue on the third mission of Universities in *Science and Public Policy* (SPP 2009). The second book, *Biotechnology and Innovation Systems—The Role of Public Policy* (Göransson & Påhlsson 2011), looked at how actors, universities in particular, organize themselves in order to facilitate cooperation and appropriation of a specific technology—in this case biotech.

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[1] The UniDev member countries are Bolivia, Brazil, China, Cuba, Denmark, Germany, Latvia, Mozambique, Russian Federation, South Africa, Sweden, Tanzania, Uruguay, and Vietnam.

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In this volume the focus is on how universities cope with new challenges such as rising income inequalities and social exclusion, to what extent universities are part of inclusive development policies, and to what extent social innovation is part of the university agenda. This volume presents the result of a research process involving 11 research group teams from the UniDev countries' community, representing Bolivia, Brazil, Cuba, Denmark, Latvia, Russian Federation, South Africa, Sweden Tanzania, Uruguay, and Vietnam, and which has been engaged in addressing such questions through case studies in their respective countries.

Since the beginning, an array of issues and concepts come to the fore, in order to deal with the questions proposed, expressing the diversity of the socioeconomic contexts: inclusiveness in higher education, inclusive innovation, social innovation, inclusive development, developmental universities, social technologies, social development, social economy, solidarity economy, and social entrepreneurship.

To address this wide range of concepts, schools of thought, constant exchange of ideas, and information between research groups became necessary. Besides internal seminars and intense correspondences between groups, two major UniDev international seminars took place, in Vietnam (2012) and in Bolivia (2013). Informal meetings among members of these research groups took place also alongside meetings convened at the annual conferences of the *Global Network for the Economics of Learning, Innovation, and Competence Building Systems*[2] (Globelics) held during those years.

The resulting case studies on national strategies for social innovation and inclusive development represent the bulk of this volume. In addition to the case studies, two preceding chapters discuss in depth the wide range of concepts and approaches used.

Chapter 2 provides the conceptual and contextual backdrop for the case studies. In the chapter, Claes Brundenius addresses some of the challenges that the world is currently confronting in addition to environmental degradation and climate change: rising income and wealth concentration, with social exclusion and the marginalization of many segments of the population. This is a trend in developed and developing countries alike. He discusses the promise of social innovation and the rise of the so-called third sector. In doing so, the chapter deals with the growth and impact of global capitalism and discusses the imperative of inclusive development policies to address its anomalies, making the point that growth does not necessarily lead to development for all. The chapter also takes up the role of innovation in economic growth. Innovation has for a long time been considered as one of the most important factors of growth—the engine of growth, explaining why country growth patterns differ. While it is true that innovations, generally speaking, are "good," it is also clear that many innovations actually make situations worse. A case in point is the "innovative financial instruments" that nearly brought down the global financial system in 2008.

In Chap. 3, Rodrigo Arocena and Judith Sutz further elaborate upon one key aspect of the inequitable income and wealth distribution in the world discussed in

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[2] http://www.globelics.org/

the previous chapter. Knowledge-based inequality is here presented as a main problem of our time. To overcome it requires a fundamental change in the prevailing development paradigm. Development cannot be seen any more as a "ladder" that developing countries should climb in order to reach the "place" where the so-called developed countries are located. A notion of inclusive development is sketched in this chapter by combining normative, theoretical-factual, prospective, and propositional approaches. Such issues are related with ongoing changes in universities. The models of the Humboldtian university and the entrepreneurial university are discussed, particularly in relation to the Global South. In the chapter, it is argued that different models are needed in order to contribute to overcoming knowledge-based inequality and underdevelopment. The tradition of the Latin American University Reform is recalled. The concept of developmental university is reconsidered and refined in a national innovation systems perspective. Its potential and difficulties are discussed in connection with the diffusion of the benefits and power of knowledge.

The first of the following 11 case studies deals with **Brazil**. In Chap. 4, Thiago Renault, José Manoel Carvalho de Mello, and Fernando Araújo explore two main issues: public policies to foster inclusiveness at higher education institutions as well as the role of higher education institutions in inclusion and social development.

The analysis of public policies for higher education and science, technology, and innovation (STI) for social development reveals a fragmented environment, with little interaction between the initiatives in place. Based on the analysis of the specific case of the Federal University of Rio de Janeiro, it is clear that, although successful examples of integrating teaching and social development can be found, examples of research and extension activities focusing on social development are exceptions. Moreover, they are the result of individual efforts, not of institutional or government policy. The lack of institutionalization and the isolation in which these actions are carried out make such initiatives fragile and dependent on the individuals who created them.

On the other hand, as pointed out in this chapter, social inclusion in public policies on access to higher education have been successful. The government used a strategy that combines making places available in both public and private higher education institutions (HEIs) to students of disfranchised groups of society. In the public network, race and social quotas were set up in combination with student assistance. In the private network, scholarship and loan programs were created. This strategy increased the access of disadvantaged groups to higher education institutions.

In neighboring **Bolivia**, the first university was founded already in 1624. Since then, a large system composed of public and private universities has been created. In Chap. 5, Carlos Aguirre-Bastos describes how the autonomous public universities have been at the forefront of social change through the conceptual development and practical implementation of social innovations. Autonomy of the public system dates back to 1932 and it is now expected that within their autonomy, universities will find a new political discourse, directing the academic model to address the grand challenges present both at the global and national levels.

From 2006, when a new government was installed, the role of the traditional university has been strongly questioned as it is claimed to respond to the particular interests of the dominant economic classes. As a response, indigenous universities were created, whose impact is yet to be measured. In the chapter, examples are discussed of the multiple contributions that the traditional universities have made to inclusive development, in spite of the difficult context in which they operate.

In Chaps. 6 and 7, complementing views are presented on the relevance and potential usefulness of inclusive development and social innovation in the singular case of socialist **Cuba**. In Chap. 6, Jorge Núñez Jover, Galia Figueroa Alfonso, Ariamnis Alcázar Quiñones, and Tamara Proenza Díaz argue that the role of Cuban universities in the innovation system is manifestly to solve social, economic, and environmental problems of great importance to the country. The authors explain that concepts such as social innovation or inclusive innovation are not mentioned in Cuban policy documents. They show, however, through several examples, the potential of the university to generate innovations that promote social inclusion and sustainable development. For this to happen, though, a number of features need to be present, chief among them a committed involvement at high academic level, and multidisciplinary, effective networking and cooperation between higher education actors, enterprises, and government. Main barriers to such efforts include a narrow approach to social innovation and a lack of understanding of innovation as a systemic process. Consequently, Cuba's STI policy remains top-down and without an explicit strategy on social innovation.

The discussion on the experiences in Cuba of social innovation and inclusive development in a policy perspective is followed up in Chap. 7 by an exploration of examples of, and potential for, social innovation in the emerging non-state enterprise sector. Annika Voltan, Julia Sagebien, and Ernan Sarmiento argue that due to the inherent socially oriented values of the country, social enterprises are arising endogenously and merit examination as a potential avenue for simultaneously pursuing social, environmental, and economic outcomes. This argument is contextualized in relevant theoretical perspectives pertaining to social innovation, and in the country's unique historical background, especially as it pertains to the role of enterprise in its socialist system. Cases of social entrepreneurship illustrate the potential role and impact of social innovation. The authors provide an overview of available educational opportunities for managers and entrepreneurs and identify a gap in the training of social entrepreneurs. They conclude by presenting three recommendations for policy makers and educational institutions aimed at promoting the values and skills required to foster social entrepreneurship and other forms of social innovation: adoption of inclusive market development models, implementation of blended value frameworks for educating social entrepreneurs, and generation of macro-level social entrepreneurship research aimed at utilizing the unique opportunity provided by the Cuban context.

In **Uruguay**, the oldest, largest, and most important university is the public University of the Republic (UdelaR). In Chap. 8, Rodrigo Arocena, the former Rector of UdelaR, evaluates the reform work carried out at the university during the period 2006–2014. The guiding idea for the reform was the notion of the develop-

mental university where academic quality and social engagement could be harmoniously combined. Specific policies and concrete actions taken included extending higher education to the interior of Uruguay, making teaching modalities more flexible by teaching the same course in different ways, increasing cooperation with society, and including extension activities in the curricula of every career. A partial and preliminary assessment of achievements reveals important accomplishments in terms of inclusiveness, enlargement of extension services, and improved graduation levels. Observed shortcomings and failures are related mainly with a weak capacity to find and organize stakeholders.

From the point of view of the potential contributions of universities to inclusive development and the democratization of knowledge, a major lesson stemming from the reform work is that the possibilities of a developmental university are highly dependent on the orientations of social movements and especially their attitudes towards advanced knowledge. Such attitudes usually include examples of estrangement, distrust, hostility, more or less informed positive expectations, and even the will to get involved in related policies and actions. This is a more general challenge for strategies oriented to an inclusive development.

This issue of differing expectation on the contribution of universities to the democratization of knowledge is part of an ongoing debate in many countries over the role of universities as producers of knowledge for the development of society. In **Tanzania** a central issue is whether or not universities are moving towards more commercially oriented knowledge production rather than social—a condition producing inequalities and environmentally undesirable effects. If so, there is a need for reorienting universities towards production of knowledge that is more socially useful. However, while most of the knowledge produced by universities in developed countries is driven by markets, knowledge produced by universities in poor countries tend to be driven by public actors such as donors and governments; and therefore we would expect knowledge production to be more socially oriented. In Chap. 9, Bitrina Diyamett and Heric Thomas endeavor to validate this point by looking at innovation-related programs at two universities in Tanzania. The analysis shows that most of the innovation programs offered by these universities are more inclined towards social orientation than commercial. Consequently, the question is raised whether it makes sense to focus the debate on social innovation for poor countries in the absence of effective systems for commercial innovations that has brought about most of the human progress in developed countries.

The next case study draws on a body of empirical research in **South Africa** exploring the ways in which academics extend their knowledge to the benefit of external partners. In Chap. 10, Glenda Kruss shows that although formal access to higher education has increased substantially, epistemological access and success remain a challenge especially considering barriers to university access due to prohibitively high fees. The author reflects over the fact that the most common partners are academics or communities, but the most common types of relationships do not involve community participation: students with a social conscience, welfare-oriented community service, and research to improve the quality of life. While there are well-developed mechanisms to promote industry participation in shaping

research and innovation agendas, such interaction with communities is a significant gap. Consequently, the chapter examines emergent models of external interface mechanisms that can link communities to access university knowledge, to inform a shift towards inclusive development. It is concluded that emergent practices of participatory processes to the benefit of communities indeed exist, but that they need to be mainstreamed across faculties and departments. A critical mechanism for such a transformation is external interface structures that can link the poor as active agents to university facilities, much like relationships with firms are built.

Chapter 11 looks at the landscape for inclusive innovation in development in **Vietnam**. Tran Ngoc Ca offers an overall conceptual framework used in Southeast Asia and elsewhere, and discusses how it is applied in the Vietnamese context. Despite different specific nuances of inclusive or social innovation, the philosophy for inclusivity of innovation activities is evident in the development process of the country. The author analyzes the Vietnamese overall practice for inclusiveness of innovation actors and shows that there are a number of policies adopted in university system that promote inclusive development. Still, this is not sufficient, nor specific enough; financial mechanisms, incentive systems, as well as reorganization of the university structure remain to be improved. At the same time, as the cases of Hanoi Pharmaceutical University, Hanoi Architecture University, and Hoa Sen University in HoChiMinh city amply illustrate, even in a very nascent context, universities in agriculture and healthcare sectors engage in social and inclusive innovation in addressing development needs. This points to the need for a more conducive government policy environment to spearhead this process.

As is evident from the diverse cases presented in this volume, social inclusion and inclusive innovation practices are being implemented in university strategies and routines in various ways in accordance with historical, cultural, socioeconomic, and other factors. Chapter 12 deals with the current state of the universities' inclusive function in **Russia**, its origins, and prospects. The authors of the chapter, Leonid Gokhberg, Valentina Polyakova, Stanislav Zaichenko, and Anton Suslov, see the inclusive activities of universities as an outcome of the national and local top-down policies combined with universities' bottom-up initiatives. To clarify the path dependency, they also describe the respective particularities of the Russian higher education system vis-à-vis internationally recognized concepts and models. Moreover, a study of particular cases provides evidence for a preliminary classification of promising and reproducible university practices and tools for establishing a fruitful collaboration between higher education institutions (HEIs) and state in promotion of social inclusion and inclusive innovation. HEIs, it is argued, are the key actor enabling its "innovativeness" by implementation of nonstandard, creative, and, at the same time, adaptive approaches. The four preconditions for an effective environment for inclusive innovation are found to be (1) the growth capacity of university, (2) a socially active community, (3) competitive support to community and business initiatives, and (4) openness and absorptive capacity.

In the following chapter, Anda Adamsone-Fiskovica examines the role of HEIs in **Latvia**. The promotion of social inclusiveness is discussed with regard to both "internal" inclusion, which is attributed to the accessibility of higher education to

prospective and existent students, and "external" inclusion, which pertains to the incorporation of the needs of diverse societal groups into the HEI research agenda and practices. The underlying empirical study is based on the case of Latvia and provides a qualitative analysis of the official policy discourse embodied in national strategy documents with regard to the guiding notions of inclusive development and social innovation, both more generally and specifically, in the domain of higher education. It further offers an analysis of the formal discourse represented by the individual medium-term strategies of the six public universities and identification of selected illustrative examples of socially inclusive innovative practices undertaken by these universities in different domains. As Chap. 13 reveals, social inclusiveness of higher education occupies a comparatively marginal place in the official policy and university discourse, though it represents a rather pressing issue in the country. Nevertheless, the studied practices of universities indicate that there is quite a wide spectrum of initiatives present in the field of formal and informal adult education, community engagement, counselling, as well as social assistance that are nonprofit oriented and make a notable contribution to promoting social inclusiveness by addressing diverse public needs.

Chapter 14 explores how universities in **Sweden** have approached the challenges of inclusive development and social innovation. Bo Göransson argues that whereas the higher education system has been quite successful in providing access to previously excluded groups, the concept of social innovation applied to solving social problems has not yet been integrated into the policies and practices of the university innovation system. The Third Mission of universities is generally interpreted as research and innovation aimed at developing and commercializing technical products rather than supporting more intangible and complex social-innovation activities. The commercial innovation system at universities in Sweden is well developed but organizationally and operationally disconnected from social innovation activities.

At the core of this separation of social innovation activities from the work of technology transfer offices at universities is the tendency of regarding technological/commercial innovation as organically separated from social innovation. Instead, a model is offered that acknowledges that although much of technological innovation is distinctly different in process, aim, and outcome compared to social innovation, there exists a considerable overlap between the two types of innovation. This overlap, it is argued, carries with it the most promising potential for universities for addressing pressing needs of society and for improving the conditions of the disenfranchised.

In **Denmark**, universities are increasingly recognized as important drivers for innovation and sustainable development. Moreover, they are expected to play a crucial role in both the policy formulation and its implementation. In Chap. 15, Birgitte Gregersen discusses how these "new" views on the role of contemporary universities may influence some of the current issues related to inclusive development and social innovation in a Danish context. Moreover, current challenges that Danish universities face in their efforts to play an active role for inclusive development and social innovation are discussed. Seen from the point of view of inclusiveness and

social innovation, having access to new knowledge and learning is the key issue, but not the only relevant one. The teaching and learning model influences the process to a high degree. It is argued that especially problem-based learning (PBL) can be an efficient tool to engage students (including first-generation academics) in higher education and stimulate collaboration with external partners—including SMEs and disadvantaged citizens and marginalized regions. In the final chapter (Chap. 16) Claes Brundenius presents an overview of issues related to universities and inclusiveness discussed in this volume.

The 11 country case studies constitute the greater part of this book. Before they are presented in depth, however, the following two chapters scrutinize the causes of growing income and wealth disparities as well as their consequences in terms of knowledge-based inequalities. In doing so, they explore key conditions that set the framework for national policies and strategies on social innovation for inclusive development.

References

Göransson, B., & Brundenius, C. (Eds.). (2011). *Universities in transition: The changing role and challenges for academic institutions*. New York: Springer.

Göransson, B., & Påhlsson, C. M. (Eds.). (2011). *Biotechnology and innovation systems—The role of public policy*. New York: Edward Elgar Publishing.

SPP, Science and Public Policy. (2009, March). Volume 36, Number 2, Special issue on the Third Mission of Universities.

Chapter 2
Challenges of Rising Inequalities and the Quest for Inclusive and Sustainable Development

Claes Brundenius

Abstract This chapter provides the conceptual and contextual backdrop for the case studies in this volume. The chapter discusses some of the challenges that the world is currently confronting in addition to environmental degradation and climate change: rising income and wealth concentration, with social exclusion and the marginalization of many segments of the population. This is a trend in developed and developing countries alike. The chapter deals with the growth and impact of global capitalism and discusses the imperative of inclusive development policies to address and find solutions to these issues. Alternative measures of economic and social progress are discussed. The chapter also looks at social innovation and social entrepreneurship and discusses why these concepts are different from traditional ways of looking at innovations. Finally, the chapter looks at the growth of the so-called Third Sector and discusses to what extent it can deliver innovational solutions to social problems, where both the business sector and the public sector have failed.

Keywords Income inequalities • Sustainable development • Inclusive development • Social innovation • Third Sector • Democratization of innovation

Introduction

Rising inequalities worldwide are alongside with climate change and environmental degradation among the most worrying challenges of our time. Contemporary global capitalism is creating an economic and financial system that produces unbalanced and unsustainable growth with increasing inequalities at the same time. Since the financial crisis that exploded in 2008 the world has entered a period of low growth, even stagnation with negative per capita growth in many countries. Paul Krugman

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Table 2.1 Annual growth rate of per capita GDP in the world since 1913 (%)

Period	World	Europe	America	Africa	Asia
1913–1950	0.9	0.9	1.4	0.9	0.2
1950–1970	2.8	3.8	1.9	2.1	3.5
1970–1990	1.3	1.9	1.6	0.3	2.1
1990–2012	2.1	1.9	1.5	1.4	3.8

Source: Piketty (2014, Table 2.5)

was the first to call it the Great Recession, recalling the disaster of the Great Depression in the 1930s with its political repercussions. While some countries and regions have continued to experience relatively high economic growth until recently (2016), especially China and many African countries, and until some years ago also Latin America and India, most countries in the North have entered a period of stagnation, or recession. One could say that the good news is that income differences between the North and the South (as measured by GDP adjusted for PPP, purchasing power parity) have declined. Some other good news is that the Millennium Development Goals have been achieved in many developing areas, and especially extreme poverty seems to being reduced in most parts of the worlds.

During the last 25 years there has been impressive growth in many parts of the world, initially in East and South East Asia, later on also in South Asia and Latin America, and during the latest decade also in Africa (see Table 2.1). The income gaps *between* the developed regions and developing regions have shrunk—in general. However, while some countries are rapidly catching up, others remain behind. This phenomenon has been discussed by Amsden (1999, 2006) and others, and recently by Nobel Laureate Angus Deaton in his book *The Great Escape* (2013). A new trend is that this conversion of growth trends between and North and South has been accompanied by growing inequalities *within* the countries. This is a trend in both North and South.

Income inequalities are in many developing countries appalling and very little, if anything, is done to remedy the situation. In Africa post-apartheid South Africa is a case in point. Soon after ANC's election triumph in 1994 the government shifted from its initial radical, Keynesian-inspired Reconstruction and Development Program (RDP) to the neoliberal Growth, Employment and Redistribution (GEAR) strategy, no doubt under the pressure from the Washington Consensus. The result is that although South Africa has experienced modest to high rates of growth since 1994, the country has still one of the most unequal income distributions in the world (Maharajh 2011).

Simon Kuznets was one of the architects of National Accounts and was behind the GDP indicator. He once warned against expecting too much of the GDP indicator, since it would not be able to answer the most important questions for a country: "The *welfare* of a nation can scarcely be inferred from a measurement of national income as defined by the GDP", and continued suggesting that "goals for 'more'

growth should specify *of what and for what*" (Kuznets 1955)[1]. Simon Kuznets was thus a pioneer, and already in 1953 he pointed at the false impression that the average income (GDP/capita) gives, if we want to take a snapshot of the state of the economy of a nation. He also suggested that one should look at the *median income of a country*, which is revealing about income inequalities, and especially look at the "shares of upper income groups in the GDP accounts" and compare these with the bottom deciles.[2]

Kuznets was interested in income inequalities to test if such inequalities had an impact on growth rates, but also for instance looking at the savings/investment rates of the upper deciles. Although his test countries were few at the time and the time series limited, he found that inequalities seemed to increase at the beginning of country growth trajectories. However, after reaching a peak, inequalities seemed to decrease over time, the higher the national income level (GDP/capita) the less income disparities. This was the celebrated "bell curve" (Kuznets 1953). One could interpret this curve as showing countries being transformed from being agrarian societies to becoming industrialized ones.

Rising Inequalities Worldwide: What's the Evidence and What Can Be Done?

The Evidence

"We are the 99 %" was the slogan of the Occupy Wall Street movement in 2011, contrasting themselves with the 1 % wealthiest persons in the USA. Much interest in the upper income scales had been raised already in 2010 (that is, before the Occupy Wall Street movement) in a book by Jacob Hacker and Paul Pierson. The book has the telling title, *Winner-Take-All Politics*: *How Washington Made the Rich Richer and Turned its Back on the Middle Class*. The authors analyze data from the US Congressional Budget Office on "inflation adjusted, average household after tax income" (including salaries, transfer payments, dividends, and capital gains) for the period 1979–2006. The results are interesting and revealing:

While *average incomes* increased by 50 % in between 1979 and 2006 (or more or less the same rate as per capita GDP), the middle quintile of households (corresponding more or less to the *median income*) increased their incomes by a mere 21 % (or 0.7 % per year). The fate of the lowest quintile is far worse. Their incomes increased only by 11 %, or at an annual average rate of 0.3 %. Now to the other extremes: While the fourth quintile increased their incomes by 32 %, and the upper quintile by 55 %, the top 1 % increased their incomes by 256 %.

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[1] https://newrepublic.com/article/116461/gpi-better-gdp-measuring-united-states-progress

[2] http://www.nber.org/chapters/c3054.pdf

But it was perhaps Joseph Stiglitz who contributed most to draw people's attention to the grotesque growth of wealth of the 1 % percentile in the USA. It was in an article in *Vanity Fair*, May 2011,[3] where Stiglitz put the search light on the 1 %. Traditionally income distribution studies compare the upper quintiles or deciles with the lower ones, but Stiglitz showed that the real issue is with the superrich. "The upper 1 % of Americans," he wrote, "are now taking in nearly a quarter of the nation's income every year. In terms of wealth rather than income, the top 1 % control 40 %. Their lot in life has improved considerably. Twenty-five years ago, the corresponding figures were 12 and 33 %."

But it is worse than so, as Paul Krugman pointed out in a comment in New York Times (24 November 2011). "We are the 99 %" is a great slogan he wrote, "(but) if anything, the 99 % slogan aims too low. A large fraction of the top 1 %'s gains have actually gone to an even smaller group, the top 0.1 %—the richest 1,000th of the population." Krugman found out that according to a "Congressional Budget Office report on inequality, between 1979 and 2006 the inflation-adjusted, after-tax income of Americans in the middle of the income distribution rose 21 %. *The equivalent number for the richest 0.1 % rose 400 %*."[4]

Or, as Stiglitz summarizes: "The simple story of America is this: the rich are getting richer, the richest of the rich are getting still richer, the poor are becoming poorer and more numerous, and the middle class is being hollowed out. The incomes of the middle class are stagnating or falling, and the difference between them is increasing" (Stiglitz 2012).

At about the same time Branko Milanovic published a "brief and idiosyncratic history of global inequality" (Milanovic 2011). The essays in the book give a brilliant overview over inequality worldwide in a historical retrospective.[5] One essay discusses inequality under the type of socialism practiced in the Soviet Union and Eastern Europe. Was socialism egalitarian, and if so which were the most negative effects of that? The author answers that, yes, Soviet-style socialism tended to be egalitarian, with "some 6–7 Gini points more equal than capitalism." However, there was at the same time a serious problem: the lack of incentives to do work and do innovation. Another negative aspect was the gap in living standards between the subjects (=people in general) and the ones at the top in the party, the *nomenklatura* (the ones who are "more equal than others"). Their ostentatious consumption patterns contributed to the growing disenchantments of people at large. But, adds Milanovic, "the value of these consumption goods was trivial compared to the spending patterns of today's oligarchs in Russia."

Lately a series of scholars have published books and articles on the subject, many related to the North, especially to the USA, but also increasingly discussing about the widening income gaps in the South (Piketty 2014; Weeks 2014; Atkinson 2015; Milanovic 2016). The comprehensive study by Thomas Piketty on *Capital in the*

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[3] http://www.vanityfair.com/news/2011/05/top-one-percent-201105

[4] http://www.nytimes.com/2011/11/25/opinion/we-are-the-99-9.html?_r=0

[5] Milanovic's work is to a large extent based on Maddison's historical data collection on GDP and income developments in over 100 countries (Maddison 2003).

Table 2.2 Some data on income and wealth distribution in selected countries

	GINI index		Share of top 10%		Share of top 1%		Share of top 0.1%	
	1980 or closest	2014 or closest	1980 or closest	2014 or closest	1980 or closest	2014 or closest	1980 or closest	2014 or closest
USA (wealth)	32.7	41.1	34.6 (65.1)	49.9 (77.2)	10.0 (25.3)	21.2 (41.8)	3.4 (7.5)	10.3 (22.0)
Denmark (wealth)	20.1	24.9	25.9 (67.5)	26.9 (72.2)	5.5 (24.6)	6.4 (29.3)	1.4 (NA)	1.9 (NA)
Sweden (wealth)	19.0	27.3	22.7 (69.6)	28.0 (68.6)	4.1 (17.7)	7.2 (30.8)	0.7 (NA)	2.5 (NA)
Russia (wealth)	23.8	41.6	19.5	33.2 (87.0)	NA	NA (66.2)	NA	NA
Latvia	22.5	35.5	18.7	26.6	NA	5.0	NA	NA
Brazil (wealth)	57.9	52.9	45.9	42.0 (73.3)	NA	NA	NA	NA
Bolivia	58.0	47.0	31.7	35.6	NA	NA	NA	NA
Uruguay	42.0	40.0	33.2	45.2	NA	14.0	NA	4.6
Cuba	22.0	38.0	21.1	NA	NA	NA	NA	NA
South Africa (wealth)	57.0	63.4	49.9 (56.9)	54.1 (72.0)	12.2	16.7 (40.1)	2.9	4.8
Tanzania	59.7	37.8	27.1	31.0	NA	NA	4.7	NA
China (wealth)	29.9	42.1	17.4	27.9 (66.8)	2.6	5.9 (37.2)	0.47	1.20
Vietnam	34.4	38.7	28.6	30.1	NA	NA	NA	NA

Sources: *Gini Index*: World Bank (2016) except Cuba (Brundenius 2009) and Vietnam (Dollar and Glewwe 1998) *Income and wealth shares data*: USA (Saez and Zucman 2014); Denmark (Atkinson and Søndergaard 2013); South Africa: Orthofer (2015); Sweden: Roine and Waldenström (2014); Uruguay (Burdín et al. 2015); all other countries (WID 2016); Credit Suisse (2014, 2015); EUROSTAT 2016

Twenty-First Century (2014) won a lot of attention when it came out. The book not only analyzes income data and their distribution by time in a series of countries, but—even more importantly—it also focuses on wealth concentration and its accumulation.[6] It was the first study that with hard facts revealed the increasing income inequalities in the USA and in Europe, especially after the 1970s. Piketty's own research group in France has, together with collaborating research groups in the USA and other places, put their research and databases at the disposal of the OECD in Paris. The database (OECD 2015b)[7] has been of great use in preparing Table 2.2.

The research results by Piketty and his associates are politically hot. The Democratic Presidential Candidate Bernie Sanders referred to it in a speech in

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[6] One of the main conclusions is that $r > g$, where r is the rate of return to capital and g is the rate of growth world output. One of Piketty's policy recommendations is that governments take actions to adopt a global tax on wealth and capital transactions.

[7] http://www.oecd.org/els/soc/income-distribution-database.htm

September 2015.[8] He claimed that the 0.1 % households in the USA had almost as much wealth as the bottom 90 %! Quite remarkable but it turned out to be true. Sanders had probably read about it in the Guardian,[9] which in turn referred to a recent study by Piketty associates Saez and Zucman (2014). Their study focuses on the wealth development to the richest percentiles in the USA since 1913. They found that wealth concentration follows a bell-shape curve with a high at the beginning of the twentieth century, and then falling back after 1929 until 1978.

Since then, concentration has constantly increased, especially during the Reagan and Bush governments. The authors find that it is at the very top where most of the wealth concentration takes place. The rise in wealth concentration is almost entirely the result of the increasing wealth share of the 0.1 %: from 7 % of total wealth in 1979 to 22 % in 2012. These 22 % should be compared with the share of the bottom 90 % of US families: 22.8 %. Yes, Bernie Sanders was right.

Increasing Wealth Concentration Worldwide

It is clear from the above that interest and concern are now changing from income inequalities to *wealth concentration*. Following up on the research on wealth concentration in the USA, OXFAM published a report warning about rising inequality also in other G20 countries. "The gap between the rich and the rest is extreme and growing (and) the G20 nations are not immune" (OXFAM 2014)[10]. The OXFAM Brief was based on data from latest wealth report from Credit Suisse (2014), which revealed that the upper decile accounted for 85 % of the wealth assets in Russia, 75 % in the USA, 73 % in Brazil, 72 % in South Africa, 64 % in China, 55 % in the UK, and 49 % in Japan. However, even more astounding: OXFAM estimated that the 1 % richest in the G20 countries had captured 36 % of the total wealth increase in G20 of 17 trillion dollars, that is, a wealth increase for the richest 1 % of 6.2 trillion dollars in just 1 year (between 2012 and 2013).

In January 2016 OXFAM followed up on the Credit Suisse Report with an estimate that the *richest 1 % in the world* (not just the G20) have accumulated *more wealth than the rest of the world*, and pointing at "shocking new evidence of inequality crisis that is out of control." OXFAM found that just 62 individuals in the world had in 2015 the same wealth as the bottom 50 % of mankind! And it gets worse: while the bottom half saw wealth decrease by 38 % during the last 5 years, the share of the 62 individuals increased in the period by 45 %. On the other extreme we find

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[8] http://www.politifact.com/virginia/statements/2015/sep/21/bernie-s/bernie-sanders-says-top-01-us-have-almost-much-wea/

[9] http://www.theguardian.com/business/2014/nov/13/us-wealth-inequality-top-01-worth-as-much-as-the-bottom-90

[10] https://www.oxfam.org/sites/www.oxfam.org/files/file_attachments/oxfam_media_brief_-_turn_the_tide.pdf

that the 10 % at the bottom of the pyramid in the world have seen their incomes increase by just $3 per year since 1988—for almost a quarter of a century (OXFAM 2016).

"Power and privilege is being used to skew the economic system to increase the gap between the richest and the rest. A global network of tax havens further enables the richest individuals to hide $7.6 trillion," says the OXFAM Report. Just an example: Almost a third of the wealth of the rich families in Africa are hidden offshore in tax havens. It is estimated that US$14 billion are lost annually in potential tax revenues in this way. Another report claims that the 110 billionaires in Russia hold 35 % of that country's wealth, which would mean that Russia has the highest wealth concentration in the world.[11]

In 2015 OECD published an important study drawing our attention to the appalling wealth concentration going on in the world: "wealth is much more concentrated than income: on average, the 10 % of wealthiest households (in the OECD area) hold half of total wealth, the next 50 % hold almost the other half, while the 40 % least wealthy own little more than 3 %. Huge levels of indebtedness and/or low asset holdings affect the activity of the lower middle class to undertake investments in human capital and others" (OECD 2015a). There are several important findings from the results of the increasing availability of income differences in many countries, primarily in the North but also in the South. One important finding is that the share of the 10 % richest increase their share in total income in practically all countries. Table 2.2 shows some income and wealth distribution data for a selection of countries. In addition to the UniDev countries covered in this volume, the table also includes data for the USA and China. It is only in Brazil that there is a slight reduction (from very high levels) in the share of the 10 % richest. This is no doubt the result of the inclusive development policies of the Lula government (2002–2010) that lifted millions of poor people in Brazil from extreme poverty through pro-poor programs such as *Bolsa Familiar*, *Minha Casa*, and others.

But poverty remains in Brazil and other countries, and it is clear that income and wealth are much more concentrated in *the super rich*. While in the past interest has been focused on the income share of the 10 % richest in relation to for instance the bottom 10–20 %, interest is now focused on the very last income percentile of income earners, the upper 1 %, or even the 0.1 %, that take an amazingly big share of the total pie. Another conclusion is that wealth concentration is even higher than income distribution (income consisting of after-tax work pay plus any capital gains income). This is perhaps not so surprising but the wealth concentration is no doubt remarkable—to say the least—in many countries: In the USA the 0.1 % richest own 42 % of the wealth; in Russia it is even worse: the 0.1 % own 66 % of the wealth, and in South Africa and China the corresponding percentages are, respectively, 40 % and 37 %. The wealth concentration is even high in welfare states like Denmark and Sweden (Table 2.2).

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[11] http://www.businessinsider.com/putting-russias-unparalleled-wealth-disparity-in-perspective-2013-10?IR=T

Equality vs. Growth: Is There a Trade-Off?

But income and wealth disparities are perhaps a sound sign, an indicator of a good and healthy economy. Inequality is perhaps a necessary sine qua non for growth and an efficient economy. "Greed is good," exclaimed Gordon Gekko in the film *Wall Street*, justifying his greed by claiming its importance for the progress of mankind. But he is not alone. Milton Friedman, the Nobel Laureate, said it before him: "Is there some society you know that doesn't run on greed?"[12]

Arthur Okun (1975) was one of the first scholars to analyze the effects of equality on the efficiency of economies. He found that there were lots of examples of equal societies that also were efficient in economic terms. However, he warned that there was often a big trade-off between them. But Okun was not alone. There was a consensus among mainstream—neo classical—economists that "income inequality has a positive impact on economic growth, both within and between nations" (Fisher and Erickson 2007). Mainstream economists have as a rule considered income inequalities not only to be a natural part of growth but also a necessary consequence of growth, and even condition for growth (see, e.g., Arrow 1979).

A new school of economists and other social scientists are nowadays questioning such simplistic relationships. In the 1990s there was renewed interest in the relationship between equality and growth. Most studies were, however, cautious in suggesting a direct causal relationship (Kenworthy 1995). Some studies nevertheless point at a negative relationship, arriving at the conclusion that inequality is harmful for economic growth. "Both historical panel data and postwar cross sections indicate a significant and largely negative relation between inequality and growth" (Persson and Tabellini 1994).

The authors estimated the share of the pre-tax earnings of the upper quintiles of the population in the nine OECD countries for which data were available for a longer period. They then correlated these data with the trajectory of the per capita income (GDP) over time (1830–1985). They found that there was a negative relationship: that the higher the inequality, the lower the growth, even negative growth. The authors also analyzed data for 56 countries for a more limited period (1960–1985), and again found that if there was a relationship between inequality and growth, then it was negative.

A research study, published by the World Bank around the same time, also focused on a rejection of the trade-off argument, that growth will have to be sacrificed with an equity strategy in developing countries. "The stylized fact that distribution must get worse with economic growth in poor countries before it can be better, turns out not to be a fact at all" (Ravaillon et al. 1999). A decade later Fisher and Erickson (2007) studied growth equity trajectories of 49 countries over 50 years, and they did not find any such relationship in the cross-country data they assembled. The inequality observed did not have any impact on growth patterns, or vice versa.

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[12] https://www.goodreads.com/author/quotes/5001.Milton_Friedman?page=1

The OECD has lately taken a strong and unambiguous side in this debate. In 2011 the organization published a study pointing at the worrying and growing income disparities in the member countries (OECD 2011). In 2015 an OECD study warned about the negative impact on long-term growth if large income differences were maintained, or expanded even further: "(G)rowing inequality is harmful for long term economic growth. The rise of inequality between 1985 and 2005, for example, is estimated to have knocked 4.7 % points of cumulative growth between 1990 and 2010" (OECD 2015a). A quite clear stand: growing inequalities *are* harmful for economic growth. *Ergo* there is no trade-off between equality and economic growth, nor between equality and efficiency.

So getting back to the Kuznets curve: what was a correct observation by Kuznets for the historical trajectories of countries such as the USA and the UK (for the period 1913–1948) does not necessarily mean that it would hold for all other countries, especially latecomers, developing countries, and what we now call emerging economies.

Harry Oshima has suggested that Kuznets' inverted U-curve (or "bell curve") is specific for Western economies. He has studied an Asian variant that is different (Oshima 1994). Analyzing Gini trends in 12 Asian countries from 1960s to the beginning of the 1990s, Oshima finds that there is indeed a kind of inverted U-curve also for Asia. But with the important difference: The Asian curve *reaches maximum quicker* than the Western curve. The most likely reason is technological change and its impact on job opportunities, and thus income inequalities. Oshima is thus optimistic about Asia (especially East Asia), although his prognostic is that income differences will also increase in Asia: an interesting analysis in the light of actual developments after 2000.

Milanovic suggests in his latest book (2016) where he has studied global inequality over a longer period (centuries!) that there are both "malign" forces and "benign" forces behind periods with growing inequality. The malign ones are, for instance, economic crises and depressions, epidemics, and wars. Benign forces are, for instance, increased education and skill levels of the labor force, aging of the population, and demand for social services. In this context Milanovic discusses also the Kuznets curve, and suggests that there are actually swinging bell curves (or inverted U-curves) depending on the period we look at. This is why we currently can observe a new upsurge in inequality and can see it as a second Kuznets curve.

It could be added that the Kuznets curve is not a divine law, and political will can, of course, counteract "wrenching forces," while instead stimulating the "levelling forces" in attempts to "bend" the Kuznets curve (Andersson 2003). James Galbraith also finds a strong correlation between equality and growth and he warns about the political instability that might follow with growing inequalities (Galbraith 2012). An increasing concentration of income and wealth at the richest decile (or even top 1 %), as seems to be the current trend in the USA, might eventually destroy a more and more disillusioned middle class.

In April 2012 President Obama took a clear stand on the issue when he said in a speech, citing evidence that income inequality hurts economic growth, that: "(W)

hat drags down our entire economy is when there is an ultra-wide chasm between the ultra-wealthy and everyone else."[13] Surprisingly the President did not indicate what policies or strategies would be needed to rectify this situation.

What Can Be Done?

But although mainstream economics suggests that inequalities are healthy—some even say necessary—for economic growth, there is nevertheless at the same time an impressive amount of research that claims that the contrary is true. Research indicates that equal societies are not only more pleasant to live in, but they actually stimulate growth as well. It can be shown that in countries with relatively equal income distribution an important quality in such societies is trust, mutual trust, and trust in political leaders. That people can trust each other is of course an important aspect of *social capital*. This is discussed convincingly in an important book on the equality and social capital by Wilkinson and Pickett (2009).

Many critics of rising inequalities suggest quite detailed action agendas for change. Many of the agendas are primarily aimed at changing the rules of the game in the USA, "liberating Main Street from Wall Street." David Korten sees Wall Street as "ruled by psychopaths that cannot be reformed" (Korten 2009). Instead he presents a *New Economy Agenda* with points such as:

– Redirecting the focus of economic policy from phantom wealth to real growth and real wealth
– Recover Wall Street's unearned profits … and make Wall Street theft and gambling unprofitable
– Restore national economic sovereignty
– Rebuild communities with a goal of achieving local self-reliance in meeting basic needs
– Facilitate and fund stakeholder buyouts to democratize ownership
– Use tax and income policies to favor the equitable distribution of wealth and income
– Restructure financial services to serve Main Street

Joseph Stiglitz has a similar economic reform agenda with a focus on "curbing the excesses at the top" while "helping the rest" (Stiglitz 2012). While many of the recommended reforms are USA specific, many are also of more general interest. One proposal is to "restore sustainable and equitable growth": a growth agenda, based on public investment, and redirecting investment and innovation to preserve jobs and the environment.

Anthony Atkinson (Atkinson 2015) has a "Proposal to Reduce the Extent of Inequality" which includes universal social security coverage, progressive income

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[13] http://www.theatlantic.com/business/archive/2012/04/income-inequality-is-killing-the-economy-obama-says-is-he-wrong/255407/

and wealth tax, and guaranteed work, just to mention a few of the proposals. This is a proposal that is of relevance for all countries discussed in this volume. Many of Atkinson's proposals sound like recipes for the building (or rebuilding?) of the Welfare State. It is then a bit of a historical irony that, when the European Welfare State is again looked upon as an ideal, the fact is that it is under attack where it once has been at work and functioning well. The welfare state in the Nordic countries, as a case in point, is in crisis with mounting pressures against resources. Slower economic growth, even stagnation at times in the aftermath of the Great Recession, has led to high levels of unemployment (especially among youth). The social welfare system, at least in its original version, has been seen by its critics as becoming obsolete and outdated. The blame has been on an oversized public sector.

This has led to changes in government in the Nordic countries, from social-democratic to center-right governments, whose mantra has been to lower taxes (both on private incomes and corporate profits), as a panacea to revive growth and competitiveness. The result has been a shrinking tax base and as a result the social system is partly being dismantled, replaced by private "welfare solutions." Sweden is also a case in point:

> Sweden's public spending reached 67 % of GDP in 1993… Since then the Nordics have changed course—mainly to the right. Government's share of GDP in Sweden, which has dropped by around 18 % points, is now lower than France's and could soon be lower than Britain's (NMR 2015).

Guy Standing warns that the high levels of unemployment in the North tend to become permanent—especially in Europe. Perhaps a whole generation of young people will never get a decent work in their lifetimes, creating a new proletariat, or what Standing calls the *The Precariat* (Standing 2011). A new frustrated and angry class is emerging in Europe in the wake of neoliberalism and globalization. The word precariat has an interesting origin. It was first seen in a First of May demonstration in Milan in 2008 when *migranti e precarie* protested against miserable living conditions. Austerity measures, belt tightening, "labor flexibility," and workfare,[14] with minimum wages and declining real wages as a result, have created miserable lives for large minorities of the population, writes Standing. At the same time the heydays continue for the rich and very rich.

> The precariat experiences the four A's—anger, anomie, anxiety and alienation. The anger stems from frustration at the seemingly blocked avenues for advancing a meaningful life and from a sense of relative deprivation. Some would call that envy, but to be surrounded and constantly bombarded with the trappings of material success and the celebrity culture is bound to induce seething resentment. The precariat feels frustrated not only because a lifetime of 'flexi-jobs' beckons, with all the insecurities that come with them, but also because those jobs involve no construction of trusting relationships built up in meaningful structures or networks. The precariat also has no ladders of mobility to climb, leaving people hovering between deeper self-exploitation and disengagement (Standing 2011).

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[14] A form of welfare in which capable adults are required to perform work, often in public-service jobs, as a condition of receiving assistance.

While Standing primarily writes about the precariat in Europe, Peter Temin from MIT develops similar thoughts about what he calls the *American Dual Economy* (Temin 2015). Temin describes the current US economy as a dual economy in the spirit of W. Arthur Lewis. As recalled, Lewis was when he wrote his famous book in 1955 developing a theory of growth for underdeveloped regions, where an "unlimited" supply of labor from the subsistence economy to an emerging "capitalist sector" would facilitate for the latter to expand without the need to raise wages. In a similar way a low-wage sector in the US economy is now playing the role of a subsistence economy. "This model of a modern dual economy explains difficulties in many current policy-debates, including education, healthcare, criminal justice, infrastructure and household debts."

Attempts to Measure "Real Progress"

The increasing income gaps between rich and poor in many parts have led to a renewed interest in measuring "real progress." But the search for a new yardstick of development that would better describe *real progress*, discounting negative factors of GDP growth like pollution and traffic stocking, while also taking stock of income inequalities, environmental damage, etc., has been going on since the 1980s. Much work has, for instance, been devoted to the construction of indicators for a *Green GDP*. The Green GDP tries to measure the "real" growth of an economy by subtracting from the GDP the costs of environmental and ecological damage done in a specific period of time.

"The basic gist of the problem that the Green GDP calculation is trying to solve is what exactly *the price of economic growth* is in terms of the quality of life within that area. For example, a factory that maintains an excellent production schedule will definitely add to the GDP in the country in which it is located. If that factory excessively pollutes the air in the process, the economic growth it has spurred is somewhat negated by the environmental damage it has done."[15]

A major problem with calculating a Green GDP is to calculate *in monetary terms* the damage done to environment and biodiversity—as a result of, for instance, pollution. This damage may not show up in the environment for years, and a rough estimate has to be done as a proxy before a real price tag can be put on. But even so, the Green GDP is an important instrument to demonstrate to policy makers the limits to conventional growth.

The first Green GDP country studies were published in the 1990s. The results suggested unambiguously that the Green GDP was considerably lower than the conventional GDP. That is perhaps not so surprising but the results also showed that its growth rate was considerably slower than that of the conventional GDP. However, it is still quite difficult to calculate the impact on longer term growth of the Green GDP, and how it affects "economic progress," or the well-being of citizens. The

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[15] http://www.wisegeek.com/what-is-green-gdp.htm

Global Green Economy Index is a non-monetized index, consisting of weighted environmental friendly performance factors.[16]

The work on developing a Green GDP has thus been an ongoing process for a long time. Actually, the interest in finding an alternative to GDP started back in the 1960s. In 1972 William Nordhaus and James Tobin introduced the Measure of Economic Welfare (MEW), a model to measure the annual real consumption of households, the so-called MEW-adjusted GDP. The MEW included the value of leisure time, unpaid work while deducting environmental damages.[17] A later model, the Index of Sustainable Economic Welfare (ISEW), was originally developed by Daly and Cobb (1989).

Index of Sustainable Economic Welfare (ISEW)

ISEW = Personal expenditure + Public expenditure (Ex defence) + Value of unpaid work - Private defence - Value of environmental damage
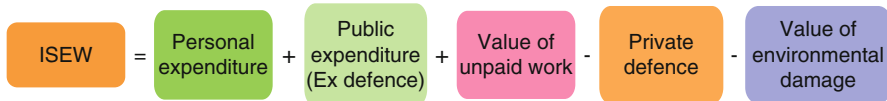
Daly and Cobb later on added several more "cost items" to the model. This work led to yet another index: the *Genuine Progress Indicator* (GPI). The GPI is thus an extension of the ISEW with the objective of getting a more realistic view of "the real progress of the society":

> Life is not all about work and it is worth more than the goods and services you buy. The GPI looks at consumption and investment in new ways while bringing *income inequality* into the picture. *Environmental quality matters*: The GPI factors in the cost of air and water pollution and value of lost forests, wetlands and farmland so we can more fully evaluate the true impacts of our factories, car exhaust and urban sprawl. By taking these costs into account, GPI will help reverse these harmful policies. *Quality of life matters*: Every family wants a safe neighborhood, efficient transportation, and gainful employment. The GPI registers these important components of our well-being, while more accurately assessing things we all value, like housework, leisure time and good roads.[18]

A recent interesting study by an international team under the leadership of Kubishewski et al. (2013) compares global GDP per capita with an estimate of global GPI per capita over a longer period in 17 countries.[19] The GPI per capita is also compared with the development of the Human Development Index, Ecological Footprint, Biocapacity, Gini Index (measuring income inequality), and other indices. While results vary from country to country, the overall conclusion is discouraging reading.

While the global GDP increased more than three times between 1950 and 2003, *economic welfare*, as estimated by the Genuine Progress Indicator, *actually decreased* since the end of the 1970s (see Fig. 2.1). "Global GPI/capita peaked in 1978, about the same time that global Ecological Footprint exceeded global

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[16] http://dualcitizeninc.com/GGEI-Report2014.pdf

[17] http://www.nber.org/chapters/c7620.pdf

[18] http://genuineprogress.net/genuine-progress-indicator/

[19] These 17 countries accounted for 53 % of the global population and 59 % of the global GDP.
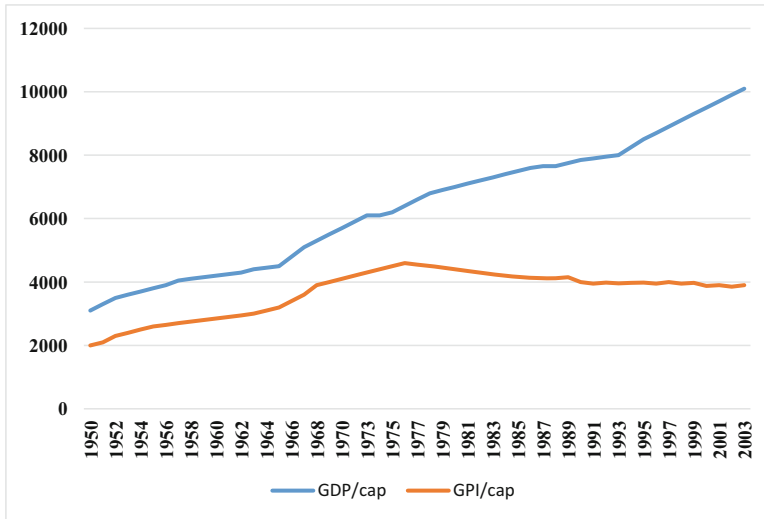
Fig. 2.1 Global GDP/capita and global GPI/capita 1950–2003. *Source*: Recomposed by the author, based on Kubiszewski et al. (2013)

Biocapacity …. Globally, GPI/capita does not increase beyond a GDP/capita of around $7000/capita. If we distributed income more equitably around the planet, the current world GDP ($67 trillion/year) could support 9.6 billion people at $7000/capita. While GPI is not the perfect economic welfare indicator, it is a far better approximation than GDP. Development policies need to shift to better account for real welfare and not merely GDP growth" (Kubiszewski et al. 2013).

The GPI trajectory follows more or less at the same pace as GDP until the 1970s, with the period 1950–1975 referred to as the *Golden Age of Growth*. This is the longest period in the global economy with moderate to high growth, not only in the North but also in the South (see Table 2.1). But apparently something happened in the mid-1970s, something that went ominously wrong! The Oil Crisis of 1973 was a watershed no doubt, with no more practically free energy supplies to the North. But maybe it already started with the devaluation of the dollar by the Nixon government in 1971[20] and the subsequent breaking up of the Bretton Woods System in 1973.[21]

The 1970s also saw the rise of income inequalities and decreasing growth rates globally, with "lost decades" in Latin America and Africa. With deregulation of financial transactions in 1980s came the rise of neoliberalism during Reagan and Thatcher, followed by the "roaring nineties," the "greediest decade in history" (Stiglitz 2003). "(This) led to scores of financial crises in the succeeding three decades, of which America's crisis in 2008–2009 was only the worst" (Stiglitz 2012:34).

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[20] Which in turn to a large extent was a result of the increasing US indebtedness due to the war in Vietnam.

[21] https://history.state.gov/milestones/1969-1976/nixon-shock

Rising income inequalities are not just the result of an increasingly wicked capitalist system. It is also the result of deliberate political action. Market fundamentalism and Washington Consensus have been supportive of the creation of financial instruments that in billionaire Warren Buffet's words have become "financial weapons of mass destruction" (Stiglitz 2012:77).

A good thing is that policy makers have become increasingly frustrated with using GDP as a measure of economic progress. GDP does not seem to be a good indicator to monitor every aspect of progress, or welfare, and there has been an intensified interest in finding alternatives or complementary yardsticks to GDP. In February 2008, the French President Nicolas Sarkozy asked Professors Joseph Stiglitz, Amartya Sen, and Jean Paul Fitoussi to create a commission, whose aim was "to identify the limits of GDP as an indicator of economic performance and social progress, including the problems with its measurement; to consider what additional information might be required for the production of more relevant indicators of social progress."[22]

The Stiglitz Report was published the following year. A key message of the Report is "that the time is ripe for our measurement system to *shift emphasis from measuring economic production to measuring people's well-being*. And measures of well-being should be put in a context of sustainability. Despite deficiencies in our measures of production, we know much more about them than about well-being. Changing emphasis does not mean dismissing GDP and production measures. They emerged from concerns about market production and employment; they continue to provide answers to many important questions such as monitoring economic activity. But emphasizing well-being is important because there appears to be an increasing gap between the information contained in aggregate GDP data and what counts for common people's well-being" (Stiglitz et al. 2009).

Why Social Innovation?

On the Origin and Contemporary Definitions of Social Innovation

Innovation has for a long time been considered as one of the most important factors of growth—the engine of growth, explaining why country growth patterns differ. While it is true that innovations are, generally speaking, considered to be "good," it is also clear that many innovations actually make situations worse. This goes especially for "innovative financial instruments," which to large extent explain the reasons behind the Great Recession. Some economists have even received the Nobel Prize for their discoveries. Weeks (2014) lists some interesting examples. Here is one:

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[22] http://www.insee.fr/fr/publications-et-services/dossiers_web/stiglitz/doc-commission/RAPPORT_anglais.pdf

In 1997 Myron Scholes and Robert C. Merton garnered the Sveriges Riksbank Prize (the equivalent to the Nobel Prize) 'for their breakthroughs in the theory of capital markets'. Using their contributions to science they helped create in 1994 a scheme for high stake speculation, LTCM (Long Term Capital Management). In one of the outcomes the scheme of the laureates went spectacularly bust in 1998, losing $4.6 billion (Weeks 2014).

Without in any way discarding the important role of traditional innovations, it is a fact that interest in social innovations and social entrepreneurship has exploded after 2008. One reason is no doubt a concern in the civil society that there are increasing problems that are not solved, nor attended to, by neither the public, nor the private sector. *Social innovations* could be part of the solution to many problems discussed here.

"Social innovation" emerged in the 1960s, used by management theorists such as Peter Drucker and Michael Young, the latter father of social entrepreneurship and later on founder of the Open University (see below). "Social innovation" was a concept used to distinguish such innovations from just innovations in general, meaning technological solutions to resolve economic problems, or "technological innovations." Innovation has become a new catchword that is nowadays used to describe practically *anything that is not routine*: processes, products, organization, or "doing things in new ways." This is fine but it is also problematic since it stretches the original meaning of "innovation." Until the 1970s an innovation was considered to be the *successful application of an invention* (usually patented but not necessarily so).

It is today recognized that an innovation does not have to be the result of an invention (patented or not). The *OECD Oslo Manual with Guidelines for Collecting and Interpreting Innovation Data* specifies in its latest edition (OECD/EUROSTAT 2005) that "an innovation is the implementation of a new or significantly improved product (good or service), or process, a new marketing method, or a new organizational method in business practices, workplace organization or external relations" (OECD 2005:46). There is an underlying assumption in the Oslo Manual that an innovation, in order to be called an innovation, must be *introduced in a market*. "All definitions of innovation in the Oslo Manual require a connection to the market," as Fred Gault, one of the leading experts in the field, explains (2010). Such market-based innovations, as described in the Oslo Manual, are sometimes referred to as business innovations or commercial innovations, but usually just "innovations."

Social innovation thus sounds like a rather recent concept. It is not even mentioned in the abovementioned Oslo Manual (OECD 2005). Fred Gault makes only a short reference to social innovation in his "practitioners' guide," *Innovation Strategies for a Global Economy* (2010), referring to the OECD Forum on Social Innovations (2008), while concluding that "the subject of social innovation is beyond the scope of the book" (Gault 2010). However, in a recent handbook on innovation and its measurement, edited by Gault (2013), there is a whole chapter on social innovation (Mulgan et al. 2013). The *Oslo Manual* is under revision and it is clear that not only innovations linked to a "market" will be covered in the new definition, including public innovation, user innovation, and supposedly also social innovation. This would be done by revising the definition of product innovation (paragraph 150) to "a new or improved product is implemented *when it is made available to potential users*," instead of "*when it is introduced on the market*" (Gault 2012, 2015).

Social innovation is originally a much older concept but with other meanings. It appeared after the French Revolution having both positive and negative connotations. The association with socialism (radicalism) was made more explicit by the socialist movements in Europe (especially France) in the upheavals in the 1830s and 1840s (Godin 2012). Later on social innovation became popular by the social reformers in Europe, not least by the founder of the *cooperative movement*, Robert Owen. Interestingly, social innovation was at the beginning of the twentieth century used almost synonymously with socialism, especially by the socialist revolutionaries themselves. Therefore it is not strange that concepts such as social innovation, social enterprise, and even sociology were almost unknown in the post-war socialist countries, as it still seems to be the case in Cuba today (see Chap. 6). There are today many definitions of social innovation. Some examples:

> A social innovation is a *novel solution to a social problem* that is more effective, efficient, sustainable, or just than present solutions and for which *the value created accrues primarily to society* as a whole rather than private individuals (Stanford Centre for Social Innovation).

> Social innovations are new ideas (products, services and models) that *simultaneously meet social needs* (more effectively than alternatives) and create new social relationships or collaborations (Murray et al. 2010).[23]

> (it is) an innovation that is explicitly for the social and public good. It is an innovation inspired by the desire to meet social needs that can be neglected by forms of private market provision and which have often been poorly served or unresolved by services organized by the state (NESTA quoted in Murray et al. 2010)

OECD's LEED Program: "Social innovation seeks new answers to social problems by (a) identifying and delivering new services to improve the quality of life of individuals and communities; (b) identifying and implementing new labor market integration processes; (c) new competencies, new jobs, and new forms of participation, as diverse elements that each one contributes to improving the position of individuals in the workforce" (OECD 2007a). During the first decade of the new millennium interest in social innovation exploded and institutes, organizations, and networks specializing in social innovation were mushrooming, especially in Europe and the USA. Examples are NESTA (National Endowment for Science, Technology and the Arts) in the UK, and the Center for Social Innovation at Stanford University.[24] But there are hundreds of similar institutions and networks in the world.

Geoff Mulgan (NESTA) deplored in 2007 that "no country has a serious strategy for social innovation comparable to strategies for innovation in business and technology" (Sanders et al. 2007). But there has since then been a tendency to a growing commitment by governments and international organizations as to the role of social innovation and the importance of involving civil society in this work. Already in August 2009, President Obama created a White House Office of Social Innovation and Civic Participation.[25]

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[23] http://www.nesta.org.uk/sites/default/files/the_open_book_of_social_innovation.pdf

[24] http://www.gsb.stanford.edu/faculty-research/centers-initiatives/cs

[25] http://www.npr.org/templates/story/story.php?storyId=104648050

In March 2011, José Manuel Barroso said that "social innovation is about meeting unmet social needs and improving social outcomes," and social innovation is tapping creativity "to find new ways of meeting pressing needs, which are not adequately met by the market or the public sector, and are directed to vulnerable groups in society" (Barroso 2011, quoted in Godin 2012). Barroso was at the time the EU Commission President and was launching the *Social Innovation Europe* Initiative.

In 2013 the Nordic Council of Ministers (NMR) appointed a working group to "survey initiatives to support social entrepreneurship and social innovation" (NMR 2015). The report sees social innovation closely connected with the social entrepreneur. Social entrepreneurship is characterized by the following: (1) (being) targeted at a social objective where there is an unmet welfare need; (2) contributing to innovative solutions to these challenges; and (3) driven by the social results, but also by a business model that can make the enterprise viable and sustainable. Another important aspect is the "involvement of the target group for the social entrepreneurial work, the employees and other key stakeholders (and) cooperation across disciplines and business models" (NMR 2015).

Social Innovation vs. Inclusive Innovation

Innovation for inclusive development (or just inclusive innovation) is another concept that often appears parallel with social innovation. Sometimes the concepts are used synonymously, as if they were the same. This can at times create confusion. The concept of social innovation is related to inclusive innovation but is not necessarily the same. Social innovations are as a rule driven by nonprofit entrepreneurship, while inclusive innovation is not limited to the nonprofit sector. As a matter of fact most inclusive innovation activities are found in the for-profit or public sector.

While *inclusive development* is today rather well defined and a widely used concept in many countries (especially developing countries), the concept is not so commonly used in national innovation policies in the North (see, e.g., OECD 2015c). Although there has for some time also been a growing interest in *inclusive innovation systems* (see, e.g., Altenburg 2009), it is only recently that the concept has become widely used. *Globelics* (the Global Network for Economics of Learning, Innovation, and Competence Building Systems) organizes annual conferences on research on science, technology, and innovation. Many studies at these conferences deal with innovation for inclusive development. A timely Thematic Report from the Globelics (2011/2012) presents and discusses conclusions from this research. Lalics, which is the Globelics network link in Latin America, has recently published a whole volume on "Systems of Innovation and Inclusive Development," edited by Dutrénit and Sutz (2014). The book contains a series of examples of innovation for inclusive development, based on experiences from six Latin American countries.

Globelics suggests the following definition of inclusive development: "Inclusive development is a process of structural change which gives voice and power to the concerns and aspirations of otherwise excluded groups. It redistributes the incomes generated in both the formal and informal sectors in favor of these groups, and it allows them to shape the future of society in interaction with other stakeholder groups" (Globelics 2011).

The OECD is also increasingly paying attention to innovation for inclusive development strategies. In a report from 2013 the organization targeted "inclusive development (as) a key priority for governments in emerging and developing countries" (OECD 2013a). The report discussed how innovation (without singling out social innovations) could be instrumental in an inclusive development strategy. It is interesting that the strategy recommendations were primarily directed to the South. The reason is that inclusiveness has not been considered to be a big problem area in the North. However, Guy Standing's book (referred to above) and other similar manifestos have been wake-up calls for many, drawing the attention to precariat and migrants that are becoming a problem and prioritized policy area in the North.

In a more recent study the OECD defines "inclusive innovation projects (as) initiatives that directly serve the welfare of lower-income groups and excluded groups" (OECD 2015c). The report lists examples of *pro-inclusive innovations*: One example is the Tata Nano low-cost car in India. Another example, also from India, is the Narayana Cardiac Care Centre which provides low-cost heart surgery "thanks to standardized procedures allowing for extended use of unskilled labor for all tasks that do not require a doctor's intervention." But there are also "grassroots innovations" under the heading of inclusive innovation. The most well-known example according to the OECD report is the Honey Bee Network. It led to the creation of the Indian National Innovation Foundation that provides support to grassroots innovations. The Network has inspired similar networks in China and other countries.

Nevertheless it is undoubtedly Muhammad Yunus' Grameen Bank and *microfinancing* (Yunus 2008) that can be considered to be the most well-known and successful example of "inclusive innovation." M-Pesa is another example: the *mobile phone money* transfer network that started as a Vodaphone service to support microfinancing in Africa has been a great success in the whole South since its start in 2007. It has not only given millions of people (also lots of poor people) access to the formal financing system, but it has also helped to reduce crime due to the diminishing need to use cash.

Inclusive innovation, as here defined and with these examples, is in some aspects different from social innovation. Social innovation is in a way—by definition—inclusive in the sense that it is not exclusive. The difference between them is thus not the "degree of inclusiveness" but because inclusive innovations can be both profit driven and nonprofit driven, while social innovations as a rule are nonprofit driven, with a habitat in a sphere between the market and the public sector, the so-called Third Sector (see more on the Third Sector below).

Social Innovation and Inclusive Development Also Embrace Refugees

During 2015 there was a dramatic increase in the number of refugees trying to reach European soil. This massive and unprecedented inflow of refugees and migrants (over a million just in 2015) constitutes a challenge to the recipient countries, not only with respect to how to accommodate so many people so fast, but also how to integrate these people in the longer term, to provide work, housing, and schooling. In order to find solutions the European Union launched an initiative to give financial support to social innovations that can be helpful with the integration of refugees and migrants[26]:

> The European Commission is looking for innovations in products, technologies, services and models that can support the integration of refugees and migrants. Innovations can relate to any aspect of the reception and integration process including, but not limited to, ideas around: education and skills development; employment and entrepreneurship; access to appropriate housing and health services; safety and human rights, and community cohesion and cultural diversity (EU 2015).

One example of such a refugee-related social innovation is *Mobilearn*, a mobile-based service based in Sweden, that provides newly arrived refugees/immigrants with important information, with online Q/A in an easy and accessible way in the home language.[27] Other examples are Innovative Solutions to Housing Refugees in Germany and Sweden; How Food Making and Sharing is Supporting Migrant Integration in Greece; Pedaling Towards Integration of Refugees in Europe; and Migrants Bring New Life to Italian Villages.[28] Vinnova, the Swedish Government innovation agency, yearly invites interested researchers and entrepreneurs to apply for support to social innovation projects, including refugee and migrant integration.

Social Innovation and National Innovation Systems

In the 1990s the concept of *national innovation systems* was coined by Lundvall (1992), Nelson (1993), Freeman (1995), and others. The concept was later on also adopted by the OECD (Gault 2010). But so far social innovation does not appear in the context of discussions of national innovation systems. Aalborg University in Denmark has an innovation research group IKE that has launched the DUI systems approach that is very much linked to the NIS concept. DUI stands for Doing-Using-Interacting and is contrasted with the traditional linear STI approach, where firms

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[26] http://ec.europa.eu/growth/industry/innovation/policy/social/competition/index_en.htm

[27] http://socialcapitalmarkets.net/social_entrepreneur/ernest-radal-mobilearn/

[28] https://webgate.ec.europa.eu/socialinnovationeurope/en/magazine/beyond-crisis-migrant-integration

rely on R&D primarily to deliver innovations to the market. The DUI mode, in contrast, emphasizes that the innovation process is an *interactive process*, where "firms interact with customers, suppliers and knowledge institutions"[29] (Lundvall et al. 2001).

This approach has similarities with ideas put forward by von Hippel among others. Von Hippel is known for his theories on the importance of user innovations. But Lundvall et al. (2001) limit their concept of user-driven innovations to the interaction between user and producers *in firms*, where the user firm is identified as a source of information. But would this not also be the case for *social enterprises*? Social enterprises, and other nonprofit organizations in the Third Sector, are important innovators, likely to interact in the learning process with other actors in national innovation systems. But neither social enterprises, nor the social or Third Sector, are mentioned in the context of national innovation systems.

Nor are they mentioned in Triple Helix discussions, although it has been suggested to expand the Triple Helix theorem to become a Quattro Helix[30] or even Penta Helix,[31] in order to accommodate social innovations and the Third Sector. So perhaps it is time to take social innovation and the Third Sector seriously, to incorporate these as important actors in national innovation systems.

Measuring the Impact of Social Innovation

A problem facing social innovators is how to find investors for the social innovation. The social innovators need venture capital just like business innovators. They often have to rely on donors or philanthropists but in contrast to business innovations there are no indicators how to measure social innovation. There is no manual like the Oslo Manual—although it may be coming. In Geoff Mulgan's words, "At the moment there are few usable indicators to guide decision makers. There are no reliable measures of spending on social innovation; no indicators of its scale; and no measures of its impact. The field is roughly where the world of R&D was in the middle of the last century" (Mulgan et al. 2013).

One problem is that social innovations do not get a monetary value on a market, since social innovations are as a rule not commercialized. That may be a fact to live with but more essential is to find indicators that show *the impact of social innovations*. This is why social impact investment is important when looking for sponsors and capital for investment in social innovation projects.

The OECD was in 2013 entrusted by the G8 Social Impact Investment Taskforce to produce a report about the social impact investment market. The report found that a "growing range of actors are emerging in the social impact investment market to

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[29] http://www.druid.dk/conferences/summer2004/papers/ds2004-82.pdf

[30] http://link.springer.com/article/10.1186%2F2192-5372-1-2#/page-1

[31] https://blogg.mah.se/urbinnovate/2015/04/27/penta-helix-conceptualizing-cross-sector-collaboration-and-social-innovation-processes/

form an ecosystem consisting of social ventures, intermediaries and investors committed to addressing social needs" (OECD 2015d). Social impact investment has become increasingly relevant with the consequences of the global financial crisis, concludes the report. The work on definitions of indicators is just at its beginning and a lot remains to be done before we have universal standards on how to measure the impact of social innovation investments.

SOCAP is an example of a successful group of social impact investors that is based in San Francisco.[32] It is "a network of social investors, entrepreneurs, and social impact leaders who believe in an inclusive and socially responsible economy to address the world's toughest challenges." Annually it organizes in San Francisco the largest conference drawing more than 10,000 impact investors and social entrepreneurs.

Social Innovation and Social Entrepreneurship: A Twin Relationship?

So what is then a *social entrepreneur*? At the UN Social Innovation Summit in New York in May 2012 there was reportedly a consensus among plenary panelists that social enterprises and social innovation are "really the same thing."[33] But not everyone agrees. There is a distinction between a social entrepreneur and a social innovator some say. Others would say that the social innovator and the social entrepreneur are often the same person, the entrepreneur that makes the innovation work. As with social innovation there are many definitions of social entrepreneur. Ashoka, perhaps the largest network of social entrepreneurs in the world (see below), describes its mission, "to find and support entrepreneurs that have innovative solutions to social problems and the potential to change patterns across society" (quoted in Defourny and Nyssens 2013).

For the Schwab Foundation[34] a social entrepreneur is above all a pragmatic visionary that inter alia "achieves a large scale, systemic and sustainable change through a new invention, a different approach, a more rigorous application of known technologies or strategies, or a combination of these." The focus is on social and/or ecological value creation but also—even if less important—on financial value creation. The importance is for the social entrepreneur to find "a new product, a new service, or a new approach to a *social problem*."

Bill Drayton, the founder of Ashoka (see below), is known for having given a face to "social entrepreneurship," and he has also expressed very eloquently what it is in his view: "Social entrepreneurs are not content just to give a fish or teach how

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[32] http://socialcapitalmarkets.net/about-socap/

[33] http://www.csrwire.com/blog/posts/466-social-entrepreneurship-social-innovation-not-the-same-thing

[34] http://www.schwabfound.org/content/what-social-entrepreneur

to fish. They will not rest until they have revolutionized the fishing industry."[35] Michael Young is another pioneer who has fostered many young social entrepreneurs. He founded the first School for Social Entrepreneurs in the world (in England in 1997) and his work has after his death in 2002 been continued by the Young Foundation, where Geoff Mulgan, a leading expert in social innovation studies, is one of the enthusiasts (The Young Foundation 2012). There exists today a global network of Schools for Social Entrepreneurs (SSE).

When Greg Dees (from Duke University) wrote his short but famous article on *The Meaning of Social Entrepreneurship*[36] (Dees 1998) the concept of social entrepreneur was still quite new. For sure, social entrepreneurs have always existed historically (just like social innovators!) but then they were rather called philanthropists, social reformers, or just great leaders. For Greg Dees it is important to define what characterizes a social entrepreneur, and what distinguishes him/her from the ordinary, profit-driven entrepreneur. The important measure of success of a social entrepreneur is not the wealth creation but *the social impact of the innovation*.

Social entrepreneurs, says Dees, can be agents of change in the service of social needs by:

- "Adopting a mission to create and sustain social value (not just private value),
- Recognizing and relentlessly pursuing new opportunities to serve that mission,
- Engaging in a process of continuous innovation, adaptation, and learning,
- Acting boldly without being limited by resources currently in hand, and
- Exhibiting heightened accountability to the constituencies served and for the outcomes created" (Dees 1998).

While being quite separated as ideas and concepts at the beginning, social innovation and social entrepreneurship tend more and more to be interpreted as being more or less the same thing. Bornstein and Davis, for instance, use social innovation synonymously with social entrepreneurship (Bornstein 2007, Bornstein and Davis 2010). Often the social innovator and the social entrepreneur are the same person.

So while it is clear that social innovation has not always been discussed in the same contexts as social enterprise and social entrepreneurship, there seems nowadays to be a consensus that social innovation and social entrepreneurships are twins with the same mission. "The terms social entrepreneurship and social enterprise both have their roots in the nonprofit sectors, and as a result they tend to limit their domains nonprofits, implicitly or explicitly excluding public for—profit organizations," as suggested by the former director of the Center for Social Innovation at Stanford University, James Phills, and his associates (Phills et al. 2008).[37] The social innovation needs an intermediary, a social entrepreneur, or a social enterprise (that are not necessarily the same thing), but ultimately it is the innovation that creates the value, *the social value*.

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[35] https://en.wikipedia.org/wiki/Bill_Drayton

[36] https://entrepreneurship.duke.edu/news-item/the-meaning-of-social-entrepreneurship/

[37] http://ssir.org/images/articles/2008FA_feature_phills_deiglmeier_miller.pdf

Recent years have seen an upsurge in initiatives to increase the visibility and knowledge of the role that social innovation and social entrepreneurship can play in the creation of a better world. The City of Malmö, Sweden, is a good example. Together with Malmö University the City is organizing annually the Forum for Social Innovation—The Malmö Social Summit Meeting.[38] Four areas are focused by the Forum: "Collaboration Models, Finance and Impact Measurement, Social Innovation and CSR (Corporate Social Responsibility), and Research and Education."

The number of social entrepreneurs worldwide is exploding. One could say that it is becoming a mass movement. Ashoka (mentioned above) is an interesting international organization working with social innovators worldwide, starting its activities already in 1980. It was one of the first organizations to enter the field of social entrepreneurship, and it is by now probably the largest network of social entrepreneurs in the world, with Ashoka Fellows in 70 countries. Ashoka's *vision* is to advance "a *Changemaker World*, where anyone can apply the skills of change making to solve complex social problems" and its *mission* is "to support social entrepreneurs who are leading and collaborating with changemakers in a team of team models[39]."

Prahalad describes his vision of the four billion people living at the bottom of the pyramid, BoP (with a per capita income of less than $1500 per year): "it is the billions of *aspiring poor* who are joining the market economy for the first time." The author expects the multinational companies (MNCs) "to look at globalization through a new lens of inclusive capitalism"[40] (Prahalad 2005). It is certainly true that there are many MNCs that nowadays adhere to the new concept of Corporate Social Responsibility (CSR) but it may be a false hope to expect global capitalism in general to be driven by "pro-poor inclusive development."

The Social Economy and the Third Sector: Alternatives to Capitalism or a Democratized Capitalism?

Murray et al. argue that much of the new trends in innovation point at a new kind of economy: a *social economy*. Its key features include "the intensive use of distributed networks to sustain and manage relationships, helped by broadband, mobile and other means of communication; blurred boundaries between production and consumption; an emphasis on collaboration and on repeated interactions, care and maintenance rather than one-off consumption; and a strong role for values and missions" (Murray et al. 2010).

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[38] The proceedings from the Malmö Meeting on Social Innovation (24–25 November 2015) are available at http://socialinnovation.se/en/new-swedish-meeting-place-for-social-innovation/

[39] https://www.ashoka.org/about; see also https://www.changemakers.com/

[40] http://www.cs.berkeley.edu/~brewer/ict4b/Fortune-BoP.pdf

Many international organizations are also becoming aware of the importance of the social economy. The OECD sees a great potential in the social economy of contributing to the *building of an inclusive economy*: "Social economy—also known as 'non-profit' or 'third sector'—organizations have grown in number and relevance, contributing to employment, social inclusion, democratic participation and community building" (OECD 2007b). These organizations thus "inhabit *the space between the market and the state*."

Nicholls et al. see the social enterprise as social innovation and the social enterprise as a "shadow state" in the meaning that civil society at times acts in areas where markets and the public sector have failed to satisfy unmet needs by society (Nicholls et al. 2015). Jacques Defourny and Marthe Nyssens from EMES (European Research Network) at the University of Louvain, Belgium, present a graphical description (Fig. 2.2) showing how they conceive of how social innovation and social enterprises fit into the context of the three sectors that innovate (1) the private for-profit sector; (2) the state sector; and (3) the "Third Sector."

Figure 2.2 depicts in an interesting way the place of social enterprises in relation to the third sector, based on earlier work by Pestoff. As seen, social innovation and social enterprise operate in a circle with a concentration of activities in a triangle, with blurring boundaries to the for-profit sector and the state sector, respectively. But as the reader will observe, there is actually also a "fourth sector," consisting of
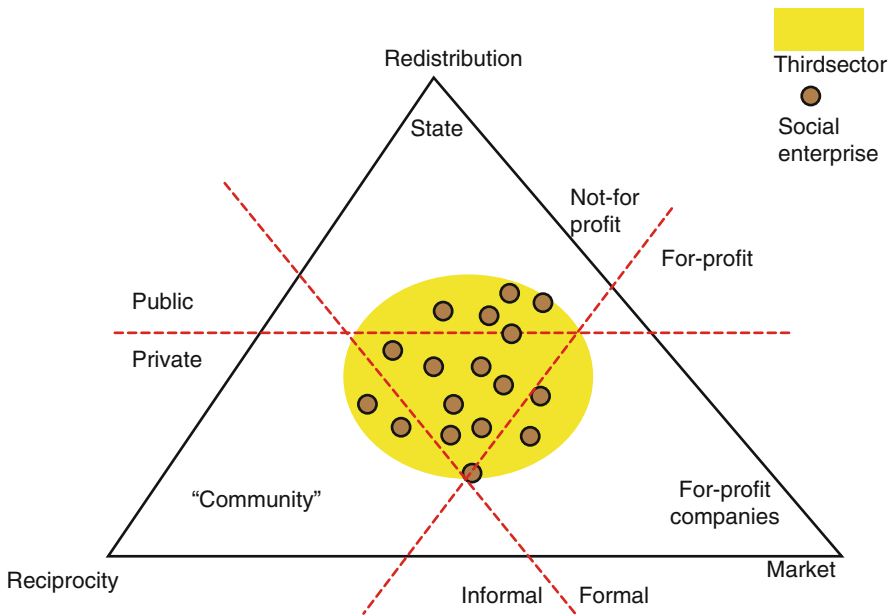
Fig. 2.2 Social enterprises and the Third Sector . Source: Defourny & Nyssens (2012) based on work by Pestoff (1998 & 2005)

the "community," the civil society and people at large, who also innovate. As suggested here this fourth sector is composed by *informal activities*, where most of them are nonprofit by their character, while minor activities belong to the public and private for-profit spheres. The *sharing economy* discussed below would for instance fit in here.

Is the capitalist system changing in character in the wake of the Great Recession? Are there new blends of capitalism coming out of the latest crisis? Some observers suggest that this is the case. For instance McGill Murphy and Denielle Sachs, both from the McKinsey consultant group, say that "an explosion of creativity in social entrepreneurship has unfolded against the backdrop of a crisis in global capitalism" (McGill Murphy and Sachs 2013). A criticism of Wall Street capitalism is that it is short-sighted and speculative, instead of looking for long-term solutions and economic and social value for society. Social entrepreneurship and social ventures are just the opposite. In the words of the authors above, "(they) create new value chains while generating profit in pursuit of social goals (which) are a direct challenge to Milton Friedman's dictum that the social purpose of business is to generate profits for its shareholders."

VOLUNTAS[41] is an International Journal of Voluntary and Non-Profit Organizations, initiated by the *International Society for Third Sector Research* (ISTR),[42] based in Baltimore, USA. The organization was founded already in 1992 and its mission is to promote high-quality education and research internationally about the possibilities of the Third Sector (meaning civil society, philanthropy, and the nonprofit sector). ISTR has today a vast network of sister organizations worldwide, and is hosting or co-hosting international conferences in many parts of the world.[43]

In Latin America there is a lot of focus on the *social economy*. It has often emerged in the connection of popular education and the *solidarity economy*. Brazil is a good example. With a socialist oriented Workers Party government in power in 2003, Paul Singer was appointed First Secretary for Solidarity Economy within the Ministry of Labor in the Lula government. The solidarity economy has since then been encouraged by government support to new programs, such as supporting solidarity entrepreneurship and university-led technological incubators of solidarity cooperatives (Fernandes et al. 2013). "The solidarity economy is a nation-wide movement, a form of new cooperativism based on solidarity, mutuality and self-management."

The social and solidarity economy is also getting a renaissance in Europe. Rory Ridley-Duff is a go-getter at Sheffield Hallam University in England. He has together with colleagues developed a model for "Fair Shares," or what he calls "a new model for social enterprise development and the strengthening of the social and

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[41] VOLUNTAS is published online by Springer http://link.springer.com/article/10.1007/s11266-015-9659-y?wt_mc=alerts.TOCjournals

[42] http://www.istr.org/?page=about

[43] https://istrconference.wordpress.com/ announcing conferences about the Third Sector in Moscow (April 2016), and in Stockholm (June 2016).

solidarity economy" (Ridley-Duff 2015). His starting point is solidarity and the solidarity economy. FairShares is simply "solidarity packaged as a business model." The model "comprises a set of brand principles, social auditing tools, management diagnostics and choice of model rules for self-governing co-operatives, mutuals and social enterprises consistent with an international definition of social enterprise."

Victor Pestoff describes the social economy as follows: "the social economy includes democratically run organizations and forms that produce *socially necessary services not always provided by the state or the market*. While the state or the market might provide services, they either will not be of the desired quality for some groups, as often is the case with public services, or they will not be affordably priced to satisfy demand, as is often the case with market providers" (Pestoff 2009a).

Eric von Hippel published in 2005 an interesting book where he discusses not only how innovation could be more democratized, but also that this process is already taking place through increasingly demand-driven innovations (Von Hippel 2005). By improvements in information and computer technology users have become increasingly interested in, and capable of, developing their own new products and services. Innovators are often keen on sharing their innovations and ideas with others. This stimulates the intellectual creativity and the creation of user-innovation communities. Thus many users find it profitable to develop new products and services themselves, and at the same time they discover that it often pays to share their innovations freely with the others in the community. "Users that innovate can develop exactly what they want, rather than relying on manufacturers to act as their (often imperfect) agents. Moreover, individual users do not have to develop everything they need on their own: they can benefit from innovations developed freely shared by others" (Von Hippel 2007).

Henry Chesbrough introduced in 2003 *open innovation* as a paradigm suggesting that companies could and should use also external ideas, for instance with partners, when it comes to technology and access to markets. It is true that by innovating with partners they share risks but they also share rewards. The idea behind open innovation is that in a world where knowledge is becoming easily accessible, companies should not just rely on their own research. Instead, they should not be afraid of buying or licensing processes, or patents from other companies.

Open innovation is related not only to user-driven innovation but also to *open-source innovation*. So what is the difference between open innovation and open-source innovation? The most important difference is no doubt that open innovations are as a rule activities run by companies that attempt to reach out and cooperate with the innovating world outside the company. The advantage is that the company is still in command and in control and the coordinator of the activity.

In an open-source innovation project it is the problem solving itself that is in focus, "so people and organizations all connect to each other rather than working through one central organization[44]." There are advantages and disadvantages with both. The more open you are with your information, the more you will probably

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[44] https://opensource.com/business/10/10/open-innovation-and-open-source-innovation-what-do-they-share-and-where-do-they-diffe

benefit from collaborating and sharing with others (open source). However, the risk is of course that someone might use that information you share in an inappropriate way that might be harmful to your innovation project.

The Maker Movement and the Change Makers: A New Role for Civil Society

Eric von Hippel and similar enthusiasts have no doubt given inspiration to the rise of user-innovation movements. *The Maker Movement* is an interesting recent global phenomenon. Bestselling author Chris Anderson presents the movement in a fascinating book (Anderson 2012). The author, just like Rifkin and Nicholls, see digitalization (and robotics) as the drivers of the new industrial revolution (in Nicholls' case a new Kondratiev wave with a techno-economic paradigm shift). Anderson sees "the Third Industrial Revolution (as) the combination of digital manufacturing and personal manufacturing: The industrialization of the Maker Movement."

With democratization of manufacturing possibilities, with desktop publishing and 3-D printing as cases in point, the advantages of speed and flexibility will "reverse the arrow of globalization." Millions of tinkerers and "making" enthusiasts are on the move with custom-fabricated, do-it-yourself designs and product design. "A generation of 'Makers' using the Web's innovation model will help drive the next big wave in the global economy, as the new technologies of digital design and rapid prototyping gives everyone the power to invent—creating *the long tail of things*." The Maker Movement is on the move all over the world today.

An example of the Maker Movement is the "shanzhai factories" in China. The expression originally referred to badly equipped, low-end, and family-based workshops. However, "what is interesting about *shanzhai* is how similar the organization structures of piracy end up looking to those of open source. Once ideas and technology get into the wild, whether dragged there by pirates or placed there by developers who believe in open source, they tend to stimulate the same sort of collaborative innovation" (Anderson 2012:211). That DIY stands for "do-it-yourself" is pretty well known to the younger generation. What is not so well known is that it also stands for *Development Impact and You*. It is a "toolkit organization," supported by NESTA, the UNDP, and other international agencies.[45] It is a toolkit with easy instructions designed for practitioners who want to get ideas to work. DIY helps you "to invent, adopt and adapt ideas that can deliver better results. It's quick to use, simple to apply, and designed to help busy people working in development."[46]

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[45] See for instance http://www.nesta.org.uk/development-impact-and-you-toolkit

[46] http://diytoolkit.org/about/

The Sharing Economy: End to Corporate Capitalism or End to the Welfare State?

Uber, the ride-sharing service with operations in 53 countries, is certainly a threat to the taxi industry. Alan Murray, editor of Fortune Magazine, claims that "Ubermania reflects a profound turn in the way the global economy is organized" (Murray 2015). Although Uber is a profit-driven company, and its CEO Travis Kalanick can hardly be called a social entrepreneur, his idea/innovation of ride-sharing is to some degree inclusive since it is a low-cost solution for many who normally cannot afford a taxi.

Another example of the sharing economy is Airbnb—the room/apartment rental idea that was started by three college students in San Francisco in 2007 as a solution of sharing rooms in an emergency situation. It is now a worldwide accommodation business, bigger than Hilton Hotels, with nine million guest/nights, over 300,000 listings in 194 countries, and with a turnover of more than 20 billion dollars.[47] It started as a volunteer, not-for-profit organization but since 2011 the head office in San Francisco charges a 14 % "occupancy fee" on all rentals. It may have started as a social innovation but is today firmly rooted in the for-profit business sector. No problem with that of course. Airbnb is a brilliant idea that solves the accommodation problem for many low-budget visitors, in addition to creating a social international contact network.

But the sharing economy is just in its beginning stage. Many cities in Europe and Asia are striving to become "sharing cities." The most well-known example is perhaps Amsterdam. In February 2015 Amsterdam was launched as Europe's first "sharing city" (Seoul was the first "sharing city" in Asia). It is an interesting experiment where not only the sharing economy partners (companies or individuals) take part, but also the local government together with other community stakeholders, also large corporations and social impact organizations. One of the best results of the sharing city idea is the active involvement of citizens in the daily municipal and local activities.

The sharing economy is a growing headache for the traditional business sector, especially for corporate business. Some even predict the end of corporate capitalism. This may not necessarily be a bad thing. But there is another more serious problem: if the sharing economy sector will continue growing at the current 25 % annual rate in many parts of the world, it might gradually undermine the tax base in many countries, jeopardizing the future of the European and other welfare societies.

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[47] http://www.forbes.com/sites/tomiogeron/2013/01/23/airbnb-and-the-unstoppable-rise-of-the-share-economy/#6068ddae6790

The Promise of Social Innovation and the Digitalization of the Global Economy

Nicholls and Murdock argue that the rapid growth and dissemination of social innovations are symptoms of "the gale of new innovations," which in the Schumpeterian "creative destruction" phase seem to follow in the wake of each economic and financial crisis. Following the pattern of the earlier five long Kondratiev waves,[48] Nicholls and Murdock suggest that *social innovation could be looked at as a sixth wave* of macro-level change, and that this sixth wave "has the potential to be as disruptive and influential as the technological-economic waves that went before" (Nicholls and Murdock 2012).

In *The Second Machine Age* (2014), Brynjolfson and McAfee see digitization and digitalization[49] as a "second machine age" that will revolutionize our lives, and change our lifestyles in a way that was unimaginable during the "first machine age." The future will be driven by smart machines taking the full advantage of the phenomenal advances in computer capacity, artificial intelligence, networking, and the digitization of just about everything. It is in the same realm of thought as the "the new growth" led by economists such as Paul Romer and Robert Lucas.

This view contrasts with the more gloomy views that have emerged in the wake of the Great Recession. Because of demographic changes, long-term global imbalance, and slowdown in technological change, the advanced countries in the North are doomed to stagnation, with low productivity growth (both labor productivity and TFP[50]). A proponent is Professor Robert Gordon from the North Western University in the USA. In his recent book on the rise and fall of American growth (Gordon 2016), the future outlook and predictions are not as glamorous as those of Brynjolfsson and McAfee. Gordon's analysis is based on long-term *productivity growth trends* in the USA (from 1870 until today).

Gordon finds that the heyday of high productivity growth coincided with the heydays of the industrial revolution, which he dates to the period 1891–1972, with a peak interval during 1950–1964. In this period "electric lighting, indoor plumbing, home appliances, motor vehicles, air travel, air conditioning, and television transformed households and workplaces (and) with medical advances, life expectancy between 1870 and 1970 grew from 45 to 72 years." The productivity data on which Gordon is basing his analysis is—at face value—no doubt correct. But do the data necessarily mirror the true story? Anyhow it is interesting—and intriguing—that economists can arrive at such different future scenarios. But perhaps they are using different data sets?

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[48] There is a huge literature on the so-called Kondratiev waves. See for instance Schumpeter (1950), Freeman (1984), and Pérez (2002).

[49] For a discussion of the difference between "digitization" and "digitalization," see for instance http://www.softwareag.com/blog/reality_check/index.php/authors-for-home/what-are-businesses-aiming-for-to-be-digital-digitized-or-digitalization/

[50] Total Factor Productivity.

Is Digitalization a Threat to Employment?

In 2012 Jeremy Rifkin published his bestseller *The Third Industrial Revolution*. Four years later, Klaus Schwab, the Director of World Economic Forum (WEF), launched his thesis about the *Fourth Industrial Revolution* (Schwab 2016). Jeremy Rifkin discusses, with the same optimism as Brynjolfsson and McAfee, how Internet technology and renewable energy are merging to create a *new* dynamic Industrial Revolution. He imagines "hundreds of millions of people producing their own green energy in their homes, offices, and factories, and sharing it with each other in an 'energy internet', just like we now create and share information online."[51] While the Third Industrial sees mainly opportunities, the Fourth Industrial Revolution sees also serious problems.

It is a bit confusing to find out if they are talking about different revolutions, or about the same thing. What is important, however, is that both draw attention to the positive and negative impacts of the current trend of digitalization of economies worldwide, an impact that at the outset primarily hit the industrialized and emerging economies, but with global consequences in the long run.

The Third Industrial Revolution has also for Schwab emerged as a result of the ICT revolution of the 1970s, and he now sees the birth of new one, the Fourth Industrial Revolution. He admits that the new revolution might seem just like the extension of the third one, but "the scale, speed of the latest technologies mean they deserve a revolution of their own."[52] But it also implies perils:

> The Fourth Industrial Revolution, combined with other socio-economic and demographic changes, will transform labor markets in the next 5 years, leading to a net loss of over five million jobs in 15 major developed and emerging economies. Skills and jobs displacement will affect every industry and geographical region, but losses can be offset by job growth in key areas. A clear majority of businesses believe that investing in skills, rather than hiring more short-term or virtual workers, is the key to successfully managing disruptions to the labor market for the long term.[53]

Carl Frey and Michael Osborne, from the Oxford Martin Program on Technology and Employment, have analyzed the impact of automation and digitalization on the labor market, and the risks of long-term stagnation (Frey and Osbourne 2015). Their report,[54] *Technology at Work. The Future of Innovation and Work*, predicts that perhaps nine out of ten jobs in some service industries are at risk of automation, and even in many relatively skilled industries there is a risk that over 50 % of jobs will disappear over the next decades. Carl Frey explains a key trend: "So far the digital age has not created very many new jobs. According to our estimates only 0.5 % of the US workforce is employed in industries that did not exist at the turn of the century."

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[51] http://www.thethirdindustrialrevolution.com/

[52] http://www.ft.com/intl/cms/s/0/9930245c-b924-11e5-bf7e-8a339b6f2164.html

[53] http://www.weforum.org/press/2016/01/five-million-jobs-by-2020-the-real-challenge-of-the-fourth-industrial-revolution

[54] http://www.oxfordmartin.ox.ac.uk/news/2015_Citi_GPS_Technology_Work

But the digital revolution is not just about its potential negative effect on employment. The digital revolution also offers new opportunities for *digital social innovation*. This is the prediction in a report coordinated by NESTA, and prepared for the European Commission.[55] It is entitled *Growing a Digital Social Innovation Ecosystem for Europe* (NESTA/EU 2015). The Report is based on a research project that "has identified, mapped and engaged communities that are constructing the emerging Digital Social Innovation (DSI) field and provides policy recommendations to foster, support, and scale DSI in Europe."[56]

Key Findings

– "The report identifies more than 1000 rising examples of digital social innovation organizations across Europe, and the hidden links among them.
– Social innovation in Europe is currently done by a few large organizations alongside a large mass of smaller organizations, but the majority of social innovators in Europe are disconnected from the bigger networks.
– The largest and more interconnected community is focused around open hardware and open networks, and there is a large focus on awareness networks and new ways of making.
– The open knowledge cluster is the second largest, with a focus on collaborative economy.
– The third largest network is grouped around NESTA and is focused on funding, acceleration and open democracy. Other communities, such as those grouped around open data are developing connected communities."[57]

Democratization of Innovation and the Quest for Inclusive and Sustainable Development

In 1972 an important book appeared. It was the report by the Club of Rome on the state of health and future prospects for mother earth. It was prepared by a group of researchers led by Dennis Meadows at MIT (Meadows et al. 1972). The report had the telling title *Limits to Growth*. It was a dystopia of a future world where population growth, industrial pollution, and other environmental damage would lead to a collapse of the economic and ecological system. The idea of Club of Rome with their Limits to Growth project was to use computer models to find out how exponential growth interacts with nonrenewable resources. The report was followed up with a *30 Year Update* (Meadows et al. 2004):

> In 1972 it was inconceivable to most people that the physical impact of humanity's activities could ever grow large enough to alter basic natural processes of the globe. But now we routinely observe, acknowledge, and discuss the ozone hole, destruction of marine fisheries, climate change and other global problems… In 1972 our studies showed that humanity's

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[55] European Commission DG Communications Networks, Content and Technology.

[56] http://www.nesta.org.uk/sites/default/files/dsireport.pdf

[57] https://ec.europa.eu/digital-agenda/en/news/growing-digital-social-innovation-ecosystem-europe

actions were still below sustainable levels. Now they are above. In 1972 our recommendations told how to slow growth. Now we must tell people how to manage an orderly reduction of their activities, to back down below the limits of the earth's resources.[58]

However, sustainability does not necessarily mean zero growth according to the authors of the *Limits to Growth* studies. Rather, they say, a sustainable society would be interested in *qualitative development*, not physical expansion.

The Brundtland Report,[59] a follow-up to the first Limits to Growth Report, defined sustainable development as "development that meets the needs of the present without compromising the ability of future generations to meet their own needs" (WCED 1987). This is even today the standard definition of sustainable development.

Jacob Kornbluth, the director behind Al Gore's film *An Inconvenient Truth*, created a lot of attention to the imminent dangers with climate change, not least when the film was launched during the UN Climate Change Conference COP 2009 in Copenhagen. The same director recently produced another film, this time together with Robert Reich, President Bill Clinton's Secretary of Labor. The film is called *Inequality for All* and is based on Reich's bestseller *The Aftershock* (2010). Reich looks at the reasons behind the Great Recession and especially its impact on the middle class in the USA. He finds that the Great Recession is primarily the result of an increasingly unequal income distribution.

Reich made like so many others (cf. above) the observation that something was going very wrong in the world, with consequences for the world economy after the end of the Golden Age of Growth, in the mid-1970s. While the economy and average income continued to grow after that, *the median income* started stagnating, even falling during periods until today; the income of the 1 % at the top increased by nearly three times (Reich 2010).

There are two major threats to the future prosperity of mankind: climate change with environmental degradation, and increasing income disparities. For Naomi Klein there is no doubt who is to blame. It is clear already from the title of her book: *This Explains Everything*: *Environment* vs. *Capitalism* (2013). She argues that there is a direct correlation between the global expansion of capitalism and environmental degradation.

Many other writers and analysts agree. Tim Jackson for instance argues that the planet can be saved only with zero growth (Jackson 2009). For him, as for Klein, it is simple logic. But in contrast to Klein he suggests that there is not only bad capitalism. There is also a dynamic capitalism, with a process of "creative destruction," and with the ideal Schumpeter entrepreneur entering the center stage, creating new technologies replacing the old and obsolete ones. The innovative entrepreneur is crucial in a dynamic context. But the entrepreneur can of course be a social entrepreneur as well. A capitalist profit-driven market sector is necessary in a mixed economy, but so is also the public sector, and the Third Sector.

The Third Sector can serve as a vitalizing factor and keeping democracy alive, as well as providing solutions to problems where the for-profit and public sectors are

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[58] http://www.euronatur.org/english/dennismeadows-en/

[59] Official name: United Nations World Commission on Environment and Development (WCED).
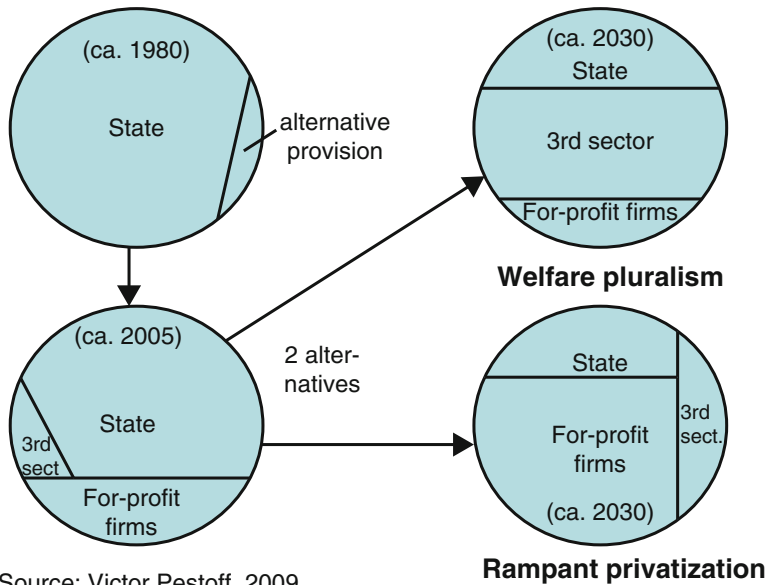
Fig. 2.3 Two scenarios of possible development of the Swedish Welfare State

failing. Democratizing innovation activities could be part of the expansion of the Third Sector. "One of the most basic controversies in political science and democratic theory is whether democracy requires active citizenship" (Pestoff 2009b).

In 2004 a government commission report concluded that the universal, tax-financed, Swedish welfare state was highly vulnerable and would be difficult to sustain in the future. In 2006 a wave of privatizations began when the new center-right government took over after the Social Democrats. The question is now what will happen to the welfare state. It cannot survive on its original recipe: public run and tax financed. This is neither politically nor economically viable in Sweden of today. What is happening in Sweden is very similar to what is happening in other countries in Europe. Sweden and other welfare states are at crossroads.

According to Pestoff there are only two alternatives: "either rampant privatization or greater welfare pluralism" (Pestoff 2009a). He illustrates this with a vision of what the welfare sector in Sweden could look like in the future (Fig. 2.3). Between 1980 and 2005 the difference is that there are now two new players, the private for-profit sector and an emerging nonprofit Third Sector. Then there are two scenarios for 2030. In both scenarios the state sector would shrink considerably by 2030 in comparison with 1980 (the heyday of the welfare state as we used to know it). The big difference between the two scenarios is that welfare pluralism would allow for the Third Sector to replace some of the functions of the public sector instead of a pro-profit sector (as a rule of the private sector).

Social Innovations, the Future Challenges, and the Role of Universities

Not very much is written on the role of social innovations at universities, and vice versa about the role of universities when it comes to social innovation activities. The country chapters in this volume will hopefully shed some more light on this important issue. Kim Matheson, Vice-President of Carleton University in Canada, has written an interesting piece on it (Matheson 2008). Her baseline is that universities are rich in human resources that can be mobilized to contribute to solving social problems. At universities there is usually a pool of expertise, not only researchers and professional staff, but also students that can provide universities with "(a) theoretical frameworks that guide the development of solutions and identify potential potholes in the implementation process; and (b) the technical skills to collect and evaluate empirical data addressing the viability of the innovation and measure its impacts." Universities can be intermediaries transmitting information across sectors, through teaching and experience of working with funding agencies, private investors, public policy regulators, and the so-called third mission.

She lists five conditions for a successful social innovation agenda at universities:

"(1) An institutional strategic policy commitment to social innovation; (2) an inclusive, institutionalized process for mobilizing all faculties and disciplines to advance social innovation; (3) a robust and diversified approach to community engagement; (4) a university-wide commitment to employing free licensing and open-source software (F/LOSS) values and strategies to the research and innovation-transfer process; and (5) mobilization of internal and external resources to support social innovation."

The following chapters of this volume will focus on the role of universities in finding solutions to problems and challenges facing the global community of today: in relation to inclusive development in general, and in particular how the university, through its third mission, could be more involved in social innovation activities with an inclusive mission to find solutions to social needs.

References

Altenburg, T. (2009). Building inclusive innovation systems in developing countries: Challenges for IS research. In B.-A. Lundvall et al. (Eds.), *Handbook of innovation systems and developing countries*. Cheltenham: Edward Elgar.

Amsden, A. (1999). *The rise of 'the rest'. Challenges to the west from late industrializing countries*. New York: Oxford University Press.

Amsden, A. (2006). *Escape from empire. The developing world's journey through heaven and hell*. Cambridge: MIT Press.

Anderson, C. (2012). *Makers. The new industrial revolution*. New York: Crown Business.

Andersson, M. (2003). *Bending the Kuznets curve. Wrenching and levelling forces during agricultural transformation in Taiwan and Chile*. Stockholm: Almqvist & Wiksell.

Arrow, K. J. (1979). The tradeoff between growth and equity. In H. I. Greenfield et al. (Eds.), *Theories for economic efficiency: Essays in honor of Abba P. Lerner*. Cambridge: MIT Press.

Atkinson, A. B. (2015). *Inequality: What can be done?* Cambridge: Harvard University Press.

Atkinson, A. B., & Søndergaard. (2013). *The long-run history of income inequality in Denmark: Top incomes from 1870 to 2010*. Copenhagen: EPRU Working Paper Series.

Barroso, J. M. (2011). *Europe leading social innovation*. Brussels: Social Innovation Europe Initiative.

Bornstein, D. (Ed.). (2007). *How to change the world. Social entrepreneurs and the power of new ideas*. Oxford: Oxford University Press.

Bornstein, D., & Davis, S. (2010). *Social entrepreneurship. What everyone needs to know*. Oxford: Oxford University Press.

Brundenius, C. (2009). Revolutionary Cuba at 50: Growth with equity revisited. *Latin American Perspectives, 36*(2), 31–48.

Brynjolfson, E., & McAfee, A. (2014). *The second machine age*. New York: W.W. Norton Company.

Burdín, G., de Rosa, M., & Vigoriti, A. (2015). *Inequality and top incomes in Uruguay. Evolution and mobility patterns*. Montevideo: Instituto de Economía, FCEA, Universidad de la República.

Chesbrough, H. (2003). *Open innovation. The new imperative for creating and profiting from technology*. Cambridge: Harvard University Press.

Credit Suisse. (2014). *Global wealth data book 2014*. Retrieved from http://economics.uwo.ca/people/davies_docs/global-wealth-databook-2014-v2.pdf.

Credit Suisse. (2015). *Global wealth report 2015*. Retrieved from https://publications.credit-suisse.com/tasks/render/file/?fileID=F2425415-DCA7-80B8-EAD989AF9341D47E.

Daly, H., & Cobb, J. B. (1989). *For the common good. Redirecting the economy toward community, the environment and a sustainable future*. Boston: Beacon Press.

Deaton, A. (2013). *The great escape. Health, wealth and the origins of inequality*. Princeton: Princeton University Press.

Dees, G. (1998). *The meaning of social entrepreneurship.* Duke University. Retrieved from https://entrepreneurship.duke.edu/news-item/the-meaning-of-social-entrepreneurship/.

Defourny, J., & Nyssens, M. (2010). Social enterprise in Europe: At the crossroads of market, public policies and third sector. *Policy and Society, 29*(2010), 231–242. Retrieved from http://socialbiz.eu/wp-content/uploads/2013/03/Defourney-Nyssens-2010-141211.pdf.

Defourny, J., & Nyssens, M. (2012). *The EMES approach of social enterprise in a comparative perspective.* EMES working papers series No. 12/03. Retrieved from https://orbi.ulg.ac.be/bitstream/2268/180666/1/EMES%20WP%2012_03%20JD%20MN.pdf.

Defourny, J., & Nyssens, M. (2013). Social innovation, social economy and social enterprise: What can the European Debate tell us? In F. Moulaert et al. (Eds.), *The international handbook on social innovation. Collective action, social learning and transdisciplinary research.* Cheltenham: Edward Elgar.

Dollar, D., & Glewwe, P. (1998). Poverty and inequality in the early reform period. In Dollar et al. (Eds.), *Household welfare and Vietnam's transition.* Washington, DC: World Bank.

Dutrénit, G., & Sutz, J. (Eds.). (2014). *National innovation systems, social inclusion and development*. Cheltenham: Edward Elgar.

EU. (2015). *EU guide to social innovation.* Retrieved from http://s3platform.jrc.ec.europa.eu/documents/20182/84453/Guide_to_Social_Innovation.pdf.

EUROSTAT. (2016). *Income inequality statistics*. Retrieved from http://ec.europa.eu/eurostat/statistics-explained/index.php/Income_inequality_statistics.

Fernandes, A. C., Novy, A., & Singer, P. (2013). The linkages between popular education and solidarity economy in Brazil: An historical perspective. In F. Moulaert et al. (Eds.), *The international handbook on social innovation. Collective action, social learning and transdisciplinary research.* Cheltenham: Edward Elgar.

Fisher, B. P., & Erickson, J. D. (2007). Growth with equity: Dismantling the Kaldor-Kuznets-Solow consensus. In J. Erickson & M. Gowdy (Eds.), *Frontiers in ecological economic theory and application.* Cheltenham: Edward Elgar.

Freeman, C. (Ed.). (1984). *Long waves in the world economy*. London: Pinter Publishers.

Freeman, C. (1995). The national system of innovation in historical perspective. *Cambridge Journal of Economics, 19*, 5–24.

Frey, C., & Osbourne, M. (2015). *Technology at work. The future of innovation and employment.* Retrieved from http://www.oxfordmartin.ox.ac.uk/news/2015_Citi_GPS_Technology_Work.

Galbraith, J. K. (2012). *Inequality and instability: A study of the world economy just before the Great Crisis*. New York: Oxford University Press.

Gault, F. (2010). *Innovation strategies for a global economy—Development. Implementation, measurement and management*. Cheltenham: Edward Elgar.

Gault, F. (2012). User innovation and the market. *Science and Public Policy, 39*, 118–128.

Gault, F. (Ed.). (2013). *Handbook of innovation indicators and measurement*. Cheltenham: Edward Elgar.

Gault, F. (2015). *Measuring innovation in all sectors of the economy*. UNU-MERIT working paper series number 2015-038. Maastricht: UNU-MERIT.

Globelics Thematic Report. (2011/2012). *Learning, innovation and inclusive development*. Aalborg University. Retrieved from http://vbn.aau.dk/files/70880770/Larning_Innovation_and_Inclusive_Development.pdf.

Godin, B. (2012). *Social innovation: Utopias of innovation from c. 1830 to present.* Project on the intellectual history of innovation. Montreal: INRS.

Gordon, R. (2016). *The rise and fall of American growth*. Princeton: Princeton University Press.

Hacker, J. S., & Person, P. (2010). *Winner-take-all politics: How Washington made the rich richer and turned its back on the middle class*. New York: Simon & Schuster.

Hertz, N. (2003). *The silent takeover. Global capitalism and the death of democracy*. New York: Harper Publishers.

Jackson, T. (2009). *Prosperity without growth. Economics for a finite planet*. New York: Earthscan Routledge.

Kenworthy, L. (1995). *In search of national economic success*. London: Sage Publications.

Klein, N. (2015). *This changes everything. Capitalism vs. the climate*. New York: Simon & Schuster.

Korten, D. (2009). *Agenda for a new economy. From phantom wealth to real wealth*. San Francisco: Berrett-Koehler Publishers.

Krugman, P. (2008). *The return of depression economics*. New York: W.W. Norton Company.

Kubiszewski,I.,Costanzaa,R.,Francob,C.,Lawnc,P.,Talberthd,J.,Jacksone,T.,etal.(2013).BeyondGDP: Measuring and achieving global genuine progress. *Ecological Economics, 93*, 57–69. http://www.academia.edu/3636103/Beyond_GDP_Measuring_and_Achieving_Global_Genuine_Progress.

Kuznets, S. (1953). *Shares of upper income groups in income and savings*. New York: National Bureau of Economic Research.

Kuznets, S. (1955). Economic growth and income inequality. *The American Economic Review, 45*(1), 1–28.

Lundvall, B. Å. (1992). *National innovation systems. Towards a theory of innovation and interactive learning*. London: Pinter Publishers.

Lundvall, B.Å., Johnson, B., Andersen, E. S., & Dalum, B. (2001). *National systems of production, innovation and competence building.* Paper presented to DRUID conference, Aalborg University. Retrieved from http://www.druid.dk/uploads/tx_picturedb/ds2001-229.pdf.

Maddison, A. (2003). *The world economy: Historical statistics*. Paris: OECD.

Maharajh, R. (2011). *Innovating beyond racial capitalism—A contribution towards the analysis of the political economy of post-apartheid South Africa*. Lund: Lund University Press.

Matheson, K. (2008). Social innovation and universities. Technology Innovation Management Review. Retrieved September, 2008, from http://timreview.ca/article/188.

McGill Murphy, R., & Sachs, D. (2013). *The rise of social entrepreneurship suggests a possible future for global capitalism.* Retrieved from http://www.forbes.com/sites/skollworldforum/2013/05/02/the-rise-of-social-entrepreneurship-suggests-a-possible-future-for-global-capitalism/print/.

Meadows, D., Randers, J., & Meadows, D. L. (2004). *Limits to growth. The 30 year update*. White River Junction: Chelsea Green Publishing Company.

Meadows, D., Randers, J., & Behrens, W. W., III. (1972). *The limits to growth*. New York: Universe Books.

Milanovic, B. (2011). *The Haves and the Have-Nots. A brief and idiosyncratic history of global inequality*. New York: Basic Books.

Milanovic, B. (2016). *Global inequality. A new approach for the age of globalization*. Cambridge: Harvard University Press.

Mulgan, G., Joseph, K., & Norman, J. (2013). Indicators for social innovation. In F. Gault (Ed.), *Handbook of innovation indicators and measurement* (p. 2013). Cheltenham: Edward Elgar.

Murray, A. (2015) Uber-nomics. *Fortune Magazine* (USA). Januray 1, 2015.

Murray, R., Caulier-Grice, J., & Mulgan, G. (2010). *The open book of social innovation*. London: NESTA, The Young Foundation.

Nelson, R. (Ed.). (1993). *National innovation systems*. Oxford: Oxford University Press.

NESTA/EU. (2015). *Growing a digital social innovation ecosystem for Europe*. Retrieved from http://www.nesta.org.uk/sites/default/files/dsireport.pdf.

Nicholls, A., & Murdock, A. (Eds.). (2012). *Social innovation: Blurring boundaries to reconfigure markets*. London: Palgrave Macmillan.

Nicholls, A., Simon, J., & Gabriel, M. (Eds.). (2015). *New frontiers in social innovation research*. Basingstoke: Palgrave/Macmillan.

Nordhaus, W. D., & Tobin, J. (1972). *Is growth obsolete?* (Vol. 96). New York: Economic Growth, National Bureau of Economic Research.

Nordic Council. (2015). *Social entrepreneurship and social innovation. Initiatives to promote social entrepreneurship and social innovation in the Nordic countries*. Retrieved from http://norden.diva-portal.org/smash/get/diva2:856045/FULLTEXT01.pdf.

OECD. (2007a). *Forum on social innovations LEED (Local Economic and Employment Development)*. Retrieved from http://www.oecd.org/cfe/leed/Forum-Social-Innovations.htm.

OECD. (2007a). *The social economy: Building inclusive economies*. Paris: OECD.

OECD. (2011). *Divided we stand. Why inequality keeps rising*. Paris: OECD.

OECD. (2013a). *Innovation and inclusive development.* Discussion report. Retrieved February, 2013, from http://www.oecd.org/sti/inno/oecd-inclusive-innovation.pdf.

OECD. (2013b). *Job creation through the social economy and social entrepreneurship.* Paris: OECD.

OECD. (2015a). *In it together: Why less inequality benefits all*. Paris: OECD Publishing. Retrieved from http://www.oecd-ilibrary.org/employment/in-it-together-why-less-inequality-benefits-all_9789264235120-en.

OECD. (2015b). *Data base on income distribution*. Retrieved from http://www.oecd.org/els/soc/income-distribution-database.htm.

OECD. (2015b). *Innovation policies for inclusive development. Scaling up inclusive innovations*. Paris: OECD. Retrieved from http://www.oecd.org/innovation/inno/scaling-up-inclusive-innovations.pdf.

OECD. (2015c). *Social impact investment. Building the evidence base*. Paris: OECD. Retrieved from http://bruegel.org/wp-content/uploads/imported/publications/OECD_SII.pdf.

OECD/EUROSTAT. (2005). *Oslo manual. Guidelines for collecting and interpreting innovation data* (3rd ed.). Paris: OECD.

Okun, A. M. (1975). *Equality and efficiency: The big trade off*. Washington, DC: Brookings Institution Press.

Orthofer, A. (2015). *Private wealth in a developing country: A South African perspective on Piketty*. Ersa Working Paper 564. Retrieved from http://www.econrsa.org/system/files/publications/working_papers/working_paper_564.pdf.

Oshima, H. (1994). The impact of technological transformation on historical trends in income distribution of Asia and the West. *The Developing Economies, XXXII*, 3.

OXFAM. (2014). *Turn the tide: The G20 must act on rising inequality, starting with fairer global tax reform.* OXFAM Media Briefing. Retrieved from https://www.oxfam.org/sites/www.oxfam.org/files/file_attachments/oxfam_media_brief_-_turn_the_tide.pdf.

OXFAM. (2016). *The economy of the 1%*. Retrieved from https://www.oxfam.org/sites/www.oxfam.org/files/file_attachments/bp210-economy-one-percent-tax-havens-180116-en_0.pdf.

Pérez, C. (2002). *Technological revolutions and financial capital. The dynamics of bubbles and golden ages*. Cheltenham: Edward Elgar.

Persson, T., & Tabellini, G. (1994). Is inequality harmful for growth? *American Economic Review, 84*(3), 600–621.

Pestoff, V. (2009a). Towards a paradigm of democratic participation: Citizen participation and co-production of personal services in Sweden. *Annals of Public and Cooperative Economics, 80*(2). Retrieved from 10.1111/j.1467-8292.2009.00384.x/epdf.

Pestoff, V. (2009b). *A democratic architecture for the welfare state*. London: Routledge.

Phills, J., Deiglmeier, K., & Miller, D. T. (2008, Fall). Rediscovering social innovation. *Stanford Social Innovation Review*. Retrieved from http://ssir.org/images/articles/2008FA_feature_phills_deiglmeier_miller.pdf.

Piketty, T. (2014). *Capital in the twenty-first century*. Cambridge: Harvard University Press.

Prahalad, C. K. (2005). *The fortune at the bottom of the pyramid. Eradicating poverty for profits*. New Jersey: Pearson Education Press. http://www.cs.berkeley.edu/~brewer/ict4b/Fortune-BoP.pdf.

Ravaillon, M., Lyn, S., & Michael, B. (1999, November). *Equity and growth in developing countries. Old and new perspectives on the policy issues*. Policy research working papers, World Bank.

Reich, R. (2010). *Aftershock. The next economy and America's future*. New York: Knopf.

Ridley-Duff, R. (2015). *The case for fairshares: A new model for social enterprise development and the strengthening of the social and solidarity economy*. Charleston: CreateSpace Independent Publishing ForumPlatform. Retrieved from http://shura.shu.ac.uk/10198/1/TheCaseForFairSharesV1.2-SHU.pdf.

Rifkin, J. (2012). *The third industrial revolution. Lateral power is transforming energy, the economy, and the world*. New York: St. Martin's Press.

Roine, J., & Waldenström, D. (2014). *Long term trends in the distribution of income and wealth*. IZA discussion paper 8157. Retrieved from http://ftp.iza.org/dp8157.pdf.

Saez, E., & Zucman, G. (2014, October). *Wealth and Inequality in the United States since 1913. Evidence from capitalized income tax data*. Working paper 20625, NBER working paper series. Retrieved from http://gabriel-zucman.eu/files/SaezZucman2014.pdf.

Sanders, B., Mulgan, G., Ali, R., & Tucker, S. (2007). *Social innovation: What it is, why it matters, how it can be accelerated*. Oxford: Said Business School.

Schumpeter, J. (1950). *Capitalism, socialism and democracy*. New York: Harper & Row.

Schwab, K. (2016). *The fourth industrial revolution*. Geneva: World Economic Forum.

Standing, G. (2011). *The precariat. The new dangerous class*. New York: Bloomsbury Academic.

Stiglitz, J. (2003). *The roaring nineties. Why we're paying the price for the greediest decade in history*. London: Penguin Books.

Stiglitz, J. (2010). *Free fall: America, free markets, and the sinking of the world economy*. New York: W.W. Norton & Company.

Stiglitz, J. (2012). *The price of inequality. How today's divided society endangers our future*. New York: W.W. Norton & Co.

Stiglitz, J., Sen, A., & Fitoussi, J. P. (2009). *Report by the commission on the measurement of economic performance and social progress.* Retrieved from http://www.insee.fr/fr/publications-et-services/dossiers_web/stiglitz/doc-commission/RAPPORT_anglais.pd.

Temin, P. (2015). *The American dual economy: Race, globalization, and the politics of exclusion.* Working paper No. 26. New York: Institute for New Economic Thinking. Retrieved from http://ineteconomics.org/ideas-papers/blog/the-american-dual-economy.

The Young Foundation. (2012). *Social innovation overview: A deliverable of the project: "The theoretical, empirical and policy foundations for building social innovation in Europe" (TEPSIE)*. In 7th framework programme, European Commission, DG Research, Brussels. Retrieved from http://youngfoundation.org/wp-content/uploads/2012/12/TEPSIE.D1.1.Report.DefiningSocialInnovation.Part-1-defining-social-innovation.pdf.

Von Hippel, E. (2005). *Democratizing innovation*. Cambridge: MIT Press.

Von Hippel, E. (2007). Democratizing innovation: The envolving phenomenon of user innovation. In *Science, technology and innovation indicators in a changing world. Responding to policy needs*. Paris: OECD.

Weeks, J. F. (2014). *Economics of the 1%. How mainstream economics serves the rich, obscures reality and distorts policy*. London: Anthem Press.

WCED (1987) United Nations World Commission on Environment and Development. New York. United Nations.

WID. (2016). *The world wealth and income database*. Retrieved from http://www.wid.world/#Home.

Wilkinson, R., & Pickett, K. (2009). *The spirit level. Why more equal societies almost always do better*. London: Penguin.

World Bank. (2016). World development indicators. Retrieved from: http://data.worldbank.org/data-catalog/world-development-indicators

Yunus, M. (2008). *Banker to the poor*. New York: Public Affairs.

Chapter 3
Inclusive Knowledge Policies When Ladders for Development Are Gone: Some Considerations on the Potential Role of Universities

Rodrigo Arocena and Judith Sutz

Abstract Knowledge-based inequality is presented as a main problem of our time. It requires a change of paradigm concerning development. Development cannot be seen as the "place" of the so-called developed countries; neither can development be seen as a "ladder" that developing countries should climb. A notion of inclusive development is sketched by combining normative, theoretical-factual, prospective, and propositional approaches. Such issues are related with ongoing changes in universities. The models of the Humboldtian university and the entrepreneurial university are discussed, particularly in relation to the Global South. It is argued that different models are needed in order to contribute to overcoming knowledge-based inequality and underdevelopment. The tradition of the Latin American University Reform is recalled. The concept of Developmental University is reconsidered and refined in a National Innovation Systems perspective. Its potential and difficulties are discussed in connection with the diffusion of the benefits and power of knowledge.

Keywords Developmental university • Humboldtian university • Entrepreneurial university • Knowledge-based inequality • Innovation systems

Introduction

This chapter is a contribution to the collective work on the role of universities in innovation systems and inclusive development that is undertaken by the UniDev Project. Its main reference is the book published by that project (Göransson and Brundenius 2011).

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The section "Development Today: Neither a Place Nor a Ladder" elaborates the assertion that today development cannot be considered either a "place" (where the so-called developed countries would be located) or a "ladder" (that developing countries should climb). The section "In Search of Alternative Paradigms for Inclusive Development" sketches a notion of inclusive development by combining normative, theoretical-factual, prospective, and propositional (or policy) approaches, where "development as freedom" à la Sen is the heart of the normative approach.

Actual aspects of inequality and some trends concerning its possible evolution are related with the increasing role of knowledge, thus pointing to the potential relevance of universities in inclusive development. This is a fundamental issue for the UniDev Project. The section "Main Trend: From the Humboldtian University to the Entrepreneurial University" discusses the main trend in the transition that seems to be taking place in universities. The section "Some Southern Features of the Global Model for University Transformation" considers that trend from a Southern point of view.

In their "Synthesis of UniDev Project Findings," Brundenius and Göransson (2011:348) say that "there seems to be a need for a substantially new type of university, at least in the South, the Developmental University." The section "What University for Inclusive Development?" attempts to refine the notion (or "ideal type") of Developmental University. The section "Some Challenges for Developmental Universities" considers some main challenges that such notion faces in the real world.

The conclusion summarizes some issues that need to be studied in order to gauge the potential contribution of (some) universities to inclusive development.

Development Today: Neither a Place Nor a Ladder

Development has been thought of both as a stage in the historical evolution of humankind and as the process of reaching that stage or "place." The latter was defined by the situation of the so-called developed countries, the First World, while the developing process could be seen as climbing a "ladder" that leads to the "place" of development.

Today the dominant paradigm of development can be summarized by saying that highly industrialized capitalist countries have already climbed the ladder of development, while developing countries should try to climb the same ladder in order to "catch up" with developed countries, mainly by means of full insertion into a global order ruled by markets and comparative advantages. We shall call it the orthodox catching-up paradigm of development.

That paradigm is dominant today neither because of its internal consistency nor because of its recent successes. In fact, to "kick away the ladder" (Chang 2002) has been a major and quite successful concern of dominant industrialized countries in order to prevent other countries from catching up with them.

In turn, success in catching up has been mainly exemplified by the type of state-led development in East Asia that fostered competitive advantages by means of

active policies to promote increasingly complex productive activities. Such experience inspires what can be called the heterodox catching-up paradigm. It is a strategy for catching up with the First World by trying to climb not the ladder described by the orthodox paradigm but one much closer to the ladder really climbed yesterday by industrialized countries of today.

The "Human Development Report 2011" is entitled *Sustainability and Equity: A Better Future for All*. It offers the following definition: "Human development is the expansion of people's freedoms and capabilities to lead lives that they value and have reason to value" (UNDP 2011:1). Given the well-known environmental problems and risks, maybe we could propose an enlarged but still brief definition: Sustainable human development is the expansion of people's freedoms and capabilities to lead today and tomorrow lives that they value and have reason to value. In that case, development as a place scarcely exists: where are people's freedoms and capabilities consolidated as to ensure "a better future for all" today and tomorrow? And what "ladders" ensure that all can climb to such a hypothetical place?

None of the catching-up paradigms is a "global" option. The already quoted "Human Development Report 2011" shows in fact that prevailing trends point neither to sustainability nor to equity. For the peripheral world as a whole, catching up with the First World as exemplified by the United States by means of climbing the ladder, in the way China is doing it, is (1) highly improbable, (2) at least very hard in social terms, and (3) simply not feasible in environmental terms.

Summing up, it is time to give up thinking either of a "place" called development or of the "ladders" that sketch the development process (Arocena and Sutz 2014).

In Search of Alternative Paradigms for Inclusive Development

Our basic assertion in this section is that the notion of "Development as Freedom" (Sen 1999)—that inspires the UNDP 2011 definition of Human Development—can be the starting point of alternative paradigms aiming not at catching up but at bettering human lives in ways that take into account the role of knowledge in social relations and environmental problems.

In order to contribute to the effective building of alternatives we assert that a conception of development should combine four types of approaches: (1) a normative approach that characterizes development by its ethical ends and relates them with collective and individual commitments to development tasks; (2) a theoretical-factual approach which clarifies the main structural traits of the knowledge-based and innovation-driven economy as well as those of related power relations, understood as the broad context that shapes development issues; (3) a prospective approach which explores trends and characterizes the perspectives of advancing toward the normative horizon in the midst of the restrictions, challenges, and potentialities emerging from the factual approach; (4) a propositional approach that translates the normative approach into concrete policies that take into account facts and trends.

In the remaining of this section we refer briefly to some contents of each approach.

1. We start with a **normative approach**: the already quoted definition of human development (UNDP 2011:1) is based on "the well-known and widely quoted elaboration of Sen (1999). We understand it to be an agency-based notion of development as the expansion of individual and collective freedoms and capabilities with an egalitarian orientation. Its fundamental feature is that the expansion of freedoms and capabilities characterizes not only the ends of development (that is, the normative approach) but also the fundamental means of development: this is the leading light of the policy approach. The essential link between the normative approach and the policy approach is Sen's assertion that development means first of all seeing people not as patients but as agents" (Arocena et al. 2012).

2. The core of the **theoretical-factual approach** we work with "is characterized by the increasing role of knowledge as the main resource of power relations; that is the fundamental process that must be described and explained; that process is a main source of social and geographic inequalities that pose great challenges for development normatively understood as the expansion of capabilities and freedoms" (Arocena et al. 2012).

   The role of knowledge helps to explain that, if ladders for development are gone, the situation of underdevelopment is still with us. The centers of the global capitalist system are those rich and powerful countries where the economy is knowledge-based and innovation-driven (de la Motte and Paquet 1996). In such a system the (more or less) peripheral condition is characterized by the (more or less intense) specialization in the production of goods and services with low added value stemming from advanced knowledge and high skills. Underdeveloped countries in turn can be characterized by the combination of the peripheral condition and external subordination.

   When advanced knowledge becomes paramount for social power, an agency-oriented normative approach to development leads to focus the research agenda of the theoretical-factual approach on the interactions between different actors concerning the use of knowledge and especially innovation processes. That is the core of the Innovation Systems approach, particularly in the Aalborg version of it; see for example Lundvall (2010), his post-script to the new edition of a fundamental book first published in 1992. That approach sees innovation as a systemic, distributed and interactive social process, where learning is a main feature at least in the successful cases.

3. The **prospective approach** stresses trends to rising inequality and even social exclusion. Here we may refer to Thomas Piketty's great work on the dynamics of capital. From our point of view, it gives solid evidence to show that prevailing trends in the realm of political economy appear to be a fundamental obstacle for development seen as the expansion of freedoms and capabilities. It studies in depth trends concerning inequality. It is shown "that the two world wars, and the public policies that followed from them, played a central role in reducing inequalities in the twentieth century" while "inequality began to rise sharply again since the 1970s and 1980s" (Piketty 2014:237).

    Looking to the future, the rise of inequality is closely related with the assumption that "the twenty-first century may see a return to a low growth-regime" (Piketty 2014:72). It is anticipated that capital's share of global income will rise back to levels even higher than those observed before the social reforms of the twentieth century. "The most likely outcome is […] that the decrease in the rate of return will be smaller than the increase in the capital/income ratio, so that capital's share will increase. With a capital/income ratio of 7–8 years and a rate of return on capital of 4–5 %, capital's share of global income could amount to 30 or 40 %, a level close to that observed in the eighteenth and nineteenth centuries, and it might rise even higher" (Piketty 2014:233).

4. The **propositional approach** is concerned with the possibilities of putting knowledge to work for human development as characterized by the normative approach. "Over a long period of time, the main force in favor of greater equality has been the diffusion of knowledge and skill." Now: "the principal force for convergence—the diffusion of knowledge—is only partly natural and spontaneous. It also depends in large part on educational policies, access to training and to the acquisition of appropriate skills, and associated institutions" (Piketty 2014:22). Such assertions can be seen as the starting point for elaborating knowledge policies akin to development as the expansion of freedoms and capabilities. This normative orientation combined with the Innovation Systems approach points to learning processes as a fundamental component of knowledge policies.

The question "innovation for what?" is important here, given that the propositional approach is based on another feature of the theoretical-factual approach: the trickle-down effect of economic growth or even of economic development on an all-encompassing well-being is illusory, as several cases of economic successes and stagnant or growing inequality illustrate, particularly in Latin America. The concept of social innovation, particularly in one of its meanings, is important to give answers to such question. "Social innovation" may be understood as a close parent of the concept "social technology" proposed by Nelson (2003), referring not to the physical part of a technology but to the many different organizational aspects that make the technology socially available. This concept was put to work, for instance, to explain how "global health social technologies" (Chataway et al. 2010) were able to deliver AIDS vaccines; these authors signal that one of the traits of the social technologies approach is the explicit inclusion of the notion of agency in the analysis. There is also the burgeoning concept "social innovation"—"new ideas that meet unmet needs" (Mulgan 2007:4)—with emphasis on hybridizations and combinations more than on radical innovations, on cutting across organizational, sectoral, and disciplinary boundaries, and on a full range of participants, with special attention to users (Mulgan 2007:5). Moreover, social innovations are not only oriented toward fulfilling social needs, but are mainly achieved through organizations that are predominantly social. It is clear, then, that when we talk about "inclusive knowledge policies," encompassing as we will see below organizational as well as technical innovations oriented toward social inclusion, that is, "inclusive innovations," we are talking about social innovations in the second sense above recalled.

Possible contributions of universities to such policies will be discussed below. Their relevance is related with the widely accepted assertion that "the best way to increase wages and reduce wage inequalities in the long run is to invest in education and skills" (Piketty 2014:313). Moreover "unequal access to higher education […] is one of the most important problems that social states everywhere must face in the twenty-first century" (Piketty 2014:485); thus the potential role of the universities comes to the forefront. In the next section we start considering it.

Before we sum up what has been said in the first section and in this one: our aim is to work toward a notion of knowledge-based, sustainable, inclusive, and agency-oriented development. It can be called simply *inclusive development* because, in our time, a development strategy that aims at social inclusion needs to pay fundamental attention to knowledge and to the environment, while in any time it must see people not as patients but as agents. Undoubtedly, inclusive development is needed above all in the South or, more precisely, in underdevelopment; perhaps it is also needed in (at least several countries and regions of) the North. When ladders for development are gone, and development as a place withers away, inclusive development based on the expansion of capabilities and freedoms is not only a Southern issue but a truly global challenge.

Main Trend: From the Humboldtian University to the Entrepreneurial University

> The Humboldtian research university became a global model in the nineteenth century, spreading from Europe to USA (and further, through colonialism, to Latin America and Asia); in recent years, a reverse policy transfer has taken place where the North American 'entrepreneurial' university has become the beacon of university reformers worldwide. (Benner 2011:13)

The success of the Humboldtian university was closely related with the "marriage of science and technology" that made scientific research a fundamental element of industrial success, as shown by the two countries—Germany and USA—that took the lead in the Second Industrial Revolution. The "model" of the Humboldtian university was conceived several decades before such a "marriage" took place, when the prevalent model was the French model of separating higher education, offered in professional schools or faculties, from research, cultivated in specialized institutes.

In turn the Humboldtian model aimed at separating university research from government and private enterprises. As Schmoch asserts, the "model of the Berlin University was conceived by German idealist philosophers, in particular Wilhelm von Humboldt." His ideal includes an "institutional decoupling of science by four major separations": of cognition and property, of ideas and interest, of theory and practice, of science and state. "These separations were introduced to permit independent research activities by universities without the government or private enterprises exerting influence. This concept induced a distinct orientation of universities

toward the generation of pure knowledge and thus toward basic research. Humboldt's concept was revolutionary in the context of that time which was characterized by a strong central government which tried to control nearly everything" (Schmoch 2011:270).

It may be said that in fact external interests, and particularly government interests, exerted substantial influence on the Humboldtian universities in Germany; nevertheless, such universities were able to concentrate on basic research. When such option was complemented by important ties with science-based industry, when academic universities were complemented with more application-oriented polytechnic institutes, and when the German model was creatively copied in USA in such a way that science and technology became closer, the Humboldtian university carried the day. The French model, that oriented Higher Education in Latin America during the nineteenth century, was superseded. The so-called Academic Revolution, characterized by the combination of teaching and research as university missions, can be seen as the best option in the realm of higher education for forging ahead during the "Second Economic Revolution" as North (2005) has characterized the marriage of science and technology.

With the advent in the last decades of the twentieth century of the capitalist knowledge society in the "central countries" and its global impact, another great academic transformation seems to be taking place, the emergence first of all in USA of the entrepreneurial university.

As Benner (2011:15) asserts referring to Etzkowitz and Mowery, the "mechanisms for integrating the research system with the market are […] exceptionally well developed in USA […] the universities are often based on an entrepreneurial tradition and are accustomed to operating according to market or quasi-market conditions […] academic have historically been subject to many incentives to combine traditional academic tasks with entrepreneurial activity […] the infrastructure for science-based entrepreneurship is highly developed, with a rich flora of venture capitalists, organizational brokers, university patenting, and licensing organizations surrounding the academic centers."

The entrepreneurial university has been defined by Etzkowitz (2004) by the mission of capitalizing knowledge, a succinct and precise definition that stresses its connection with the globalizing capitalist knowledge society. The expansion of the entrepreneurial university highlights both the increasing role of knowledge and its prevailing elite nature. "Universities have become the most important instrument for securing a position in the globalized knowledge-based economy—by securing scientific visibility and by fostering networks of innovators and innovating sectors around them. […] Universities are being highlighted as engines of economic development, and research policy is empowering a small number of elite institutions" (Benner 2011:20).

"Increased marketization of public sector activities" (Gregersen and Rasmussen 2011:303) quite naturally characterizes the whole process. "Since the 1980s, there has been a general shift in the public service philosophy toward more and more marketization […] This tendency has also made its entry into the academic institutions and its relations to other actors in the innovation system […] it is reflected in

the increased policy focus on the production of so-called useful knowledge primarily defined as knowledge with a direct economic benefit for the private sector" (Gregersen and Rasmussen 2011).

In such a context, according to Reddy (2011:29) European countries have adopted "a new policy doctrine." It assumes that: "Science's natural tendency is to promote its own interest and therefore policy will have to intervene to facilitate the development of a more positive climate in universities toward more applied concerns." Particularly, "universities must be encouraged not to restrict themselves to providing knowledge to existing firms but to engage in the commercialization of knowledge themselves."

The trend is clear. Thus, "issues related to technology transfer and the relation with the productive sector are high on the agenda in the university debate [… in several countries] perhaps a reflection of policy measures aimed at distilling an entrepreneurial spirit among the university researchers" (Brundenius and Göransson 2011:347).

Results are not so clear. It is asserted that "stronger university-industry cooperation is not a panacea for all the weakness of the industry. There are still no conclusive studies, other than anecdotal illustrations, that the university-industry cooperation or the measures to encourage such cooperation as the establishment of science parks have led to significant economic benefits either regionally or nationally" (Reddy 2011:46). Undoubtedly several contrasting appreciations can be quoted. The point is just to suggest that commercialization of knowledge by universities is not an easy and quick way to strengthen industry worldwide.

A prospective approach to the role of the entrepreneurial university in development is highly dependent on the preferred notion of development and on the socioeconomic context. Fostering the entrepreneurial role of university, focused on the commercialization of knowledge, is frequently presented as a potentially fundamental contribution to catching up that should orient university reform. Our conjecture is that such trend is deepening inequality both in the South and in the North, though with more serious consequences in the South, while the possibilities that in such way universities act "as engines of economic development" are weak in underdevelopment. We briefly elaborate these assertions in the next section.

Some Southern Features of the Global Model for University Transformation

A relevant factual difference between North and South is that "the business sector […] is by far the largest contributor to R&D in the developed countries, while it is the government sector that supplies most of the financing in developing countries" (Brundenius and Göransson 2011:341). One of the reasons why generation and use of advanced knowledge is weak in the South is the weak commercial demand for such knowledge: prevailing economic dynamics do not generate substantial demand

addressed to endogenous generators of knowledge. Entrepreneurial profits are scarcely related with investing in knowledge. This is a telling reminder that peripheral economies are not knowledge-based and innovation-driven (Arocena and Sutz 2010).

When the economy is mainly driven by exploitation of natural resources, fostering knowledge and innovation is not easy. That can be the case even in countries with outstanding scientific performance. "The Russian NIS (National System of Innovation) has substantial potential for development, but nowadays the national economy is oriented toward natural resources, instead of innovation. Lack of demand for innovation will keep the NIS frozen until the drop of world prices on natural resources or until the NIS loses its potential irreversibly" (Gokhberg et al. 2011:258).

A hypothetical Southern entrepreneurial university cannot assume that outside there is a strong market demand for the knowledge it wants to commercialize. Of course, many examples of such demand and of successful university-industry cooperation in the South can be given. But, in most underdeveloped countries, they are more an exception while the rule is the "loneliness of the university actor" (Arocena and Sutz 2001) when it intends to cooperate with productive actors.

Nevertheless such cooperation must be systematically pursued. In Latin America, for example, where universities are the main generators of advanced knowledge, if that is not done, the upgrading of production to more complex activities will not take place, so it will be quite difficult to convert economic growth in economic development. The need to foster cooperation between government, academy, and production was forcefully stated in Latin America almost half a century ago (Sabato and Botana 1968). What we are saying is that the factual characteristics of the peripheral condition make unlikely that such cooperation arises from pushing universities to more commercial attitudes. Perhaps something similar happens in other parts of the South.

Higher Education marketization is increasing in the South not less than in the North. If it is debatable whether it fosters economic development, it is less contentious that it promotes knowledge-related inequality.

A main example refers to financing Higher Education, which is on the top of the list of hottest issues in the current university debates in all countries of the UniDev project (Brundenius and Göransson 2011).

In Vietnam the "introduction of tuition fees for higher education has also brought substantial extra resources for the universities" (Ca and Hung 2011:130).

In Tanzania, where education was free before the late 1980s, cost sharing was introduced. And "complaints from the public started emanating that it is only the children from the richer families that can have access to the university education, which is unfair not only for the children from poor families, but also for the country, as there is a possibility of leaving behind the best brains" (Mwamila and Diyamett 2011:187). It can be said that "the issue of financing higher education in Tanzania is not only a big problem but also a crisis!" (Mwamila and Diyamett 2011:188).

A major crisis concerning this issue took place in Chile, the most successful example of neoliberal policies in Latin America. There, during the military government (1973–1990), education was profoundly transformed with a market orientation.

Although formally interdicted, for-profit teaching expanded, particularly in the realm of Higher Education; public universities had to establish important tuition fees. Even the democratic governments of the so-called "Concertation" (1990–2010) did not really try to change such situation. A vast and stratified higher education system expanded; many of its components were of dubious quality; even fraud was often seen; students and their families spent a lot of money paying fees and loans to study, but in many cases remained hopelessly indebted; the aspiration to study at university level was frequently frustrated. In 2011 and 2012 enormous and unforeseen demonstrations of students demanded changes and, especially, free access to public higher education. It was the most important student mobilization at a world level in decades. It found substantial approval in the citizenry. It is too soon to say what its lasting consequences will be. But it implied momentous changes in the political and ideological landscape of Chile. A new and wider alliance of center and left parties, the New Majority, emerged and took office in 2014, with a new program aiming at major constitutional, fiscal, and educational reforms. If successful, such program will leave definitely behind some of the worst and enduring legacies of Pinochet's dictatorship. Now in her second period, President Michelle Bachelet is working toward free public Higher Education.

Yes: "unequal access to higher education […] is one of the most important problems that social states everywhere must face in the twenty-first century" (Piketty 2014:485). An important and difficult problem indeed. Chile is trying to build a solution to it that does not follow the prevailing model.

The neoliberal legacy has affected post-dictatorship Chile, a very unequal country as President Bachelet repeats. That legacy has also affected post-apartheid South Africa, concerning inequality in general as well as, in particular, placing "severe constraints on the implementation of an integrated policy to address the recognized shortcomings of the NSI" (Maharajh et al. 2011:213).

To anticipate the possibilities of the prevailing model for university reform, as is many other issues, looking to China seems worthwhile. Going through a breathtaking process of industrialization the country seems close to becoming the most remarkable example of catching up. At least that seems to be the prevailing opinion; for a different view see Acemoglu and Robinson (2012). Here we just mention a few of the several contentious issues related with Higher Education.

Concerning access to universities in China, in "May 2006, the State Council restricted enrollment to control the rapid growth of students, in order to increase their teaching quality. […] Parents of would-be applicants still believe increased growth in enrollment could provide better chances for their children, while undergraduates are concerned that the expansion would exert more pressure on the employment market" (Hayan and Yuan 2011:162).

The Humboldtian ideal fostered the combination of teaching and research, but the "research university" often incentives for different motives the second mission over the first one. What happens in China? "Since the evaluation of a teacher's work highlights research achievements in many universities, more and more teachers devote themselves to research work, at the expense of their teaching, and indirectly cause the deterioration of teaching quality" (Hayan and Yuan 2011:163).

In China the entrepreneurial role of university seems to have been fostered in an extreme way. "The reform of the S&T system in 1985 drastically cut down government funding for universities. Therefore, many Chinese universities decided to run their own enterprises [… in the 1990s] many Chinese universities began to set up S&T enterprises and devoted themselves to S&T development and industrialization" (Hayan and Yuan 2011:166). In 2001 the "government began to restrain university-run enterprises and call for separating them from universities. As a result, the total number of university-run enterprises has decreased since 2001. However, the number of university-run S&T enterprises was not reduced due to their great contribution to the universities and society" (Hayan and Yuan 2011:167).

As a summary as well as an introduction to the next section we quote the conclusions of Benner (2011:21–22).

> While the political and economic centrality of universities has increased dramatically and has fostered more autonomy for universities in stark contrast with a tradition of often coercive state steering, it has also created overly optimistic expectations on the university system, and a search for 'quick fixes' in the form of a simplified emulation of a US-styled governance model. This does not necessarily fit very well with existing institutional structures or with the socioeconomic conditions surrounding universities; it may instead create 'islands of excellence' with global connections but limited interaction with broader social and economic interests. It can also overshadow and marginalize developments toward a new type of 'indigenous' university. In this respect, Arocena and Sutz […] point at the emerging role of a developmental university, a new species that neither resembles the old-style 'flagship university' nor the global, US-style university but a university that connects local interests with global research dynamics. […] If realized, this model is in itself a most important contribution to policy formation in developing and developed countries alike, and an attractive alternative to the current hegemony in university governance.

So now we turn to elaborating the notion of Developmental University.

What University for Inclusive Development?

The notion of Developmental University we work with was first presented in Sutz (2005), in relation with "the so-called third mission, that is, what do universities do in order to be relevant to society?" (Brundenius and Göransson 2011:329). Such issue has been a fundamental topic in Higher Education debates during the last decades.

The editors of the book that we take as our basic reference assert that "most of the 12 UniDev countries interpret the third mission in practice to mean transfer of technology to industry. This narrow scope of the third mission is adhered by nine of the 12 countries […]. Only Cuba, Uruguay and Vietnam interpret the third mission of universities as a broader commitment to include larger segments than industry. If we further divide the countries according to the levels of R&D spending, it is interesting to note that at higher levels of R&D spending, no country is pursuing a broader scope for the third mission. In other words, the more money you spend on R&D, the more it becomes focused on industrial development and competitiveness" (Brundenius and Göransson 2011:350). The assertion signals a trend, but it may be discussed.

For example, in Brazil the tradition of extension services of public Latin American Universities has been fostered. The "extension services were taken to a new level, by force of the Constitution of 1988. The extension services were raised to the level of teaching and research activities and all three are considered to be inseparable missions. […] Extension activities are traditionally understood to mean services provided for disadvantaged social groups. They are supposed to represent the commitment of the university to overcoming situations of inequality and social exclusion. Today [some of the Deans responsible for these activities] seek to integrate those actions with areas of knowledge (communication, culture, human rights, education, environment, health, technology, and work) in the form of offers for training or economic opportunities. […] The importance of the services rendered to the citizenry is worthwhile recording: [in 2004] 180 million patients were treated in academic health units and 350,000 cases were provided by academic judicial units. A novelty concerns the emergence of incubators for popular cooperatives […]. In 2005, 34 universities already had incubators of popular cooperatives" (de Mello et al. 2011:74).

In Sweden, formally at least, the definition of the third mission seems to open different possibilities. "In 1997, Swedish universities were given a third mission in the Higher Education Act, besides education and research, to support economic and social development and play a greater role in expanding academia to the broader public" (Brundenius et al. 2011:316).

The Developmental University can be briefly defined by commitment to development as its third role. A more precise characterization can be proposed remembering that the Humboldtian project is not exactly defined by the adoption of research as a second role of universities, but by the joint practice of the fundamental missions of teaching and research. "Thus, the Developmental University is characterized, in a neo Humboldtian perspective, by the joint practice of three missions: teaching, research and cooperation for development with other institutions and collective actors. That means that developmental universities can only exist as active partners in Innovation Systems" (Arocena and Sutz 2011:93).

The intention is to relate that notion with inclusive development. Developmental universities are those "committed in diverse ways to social inclusion through knowledge and, more generally, to the democratization of knowledge" (Arocena et al. 2012). Moreover, "developmental universities can only exist in active partnerships with external stakeholders. It also implies that the developmental role of universities demands more and better teaching and research, not less" (Arocena et al. 2014:591). It follows that the developmental role of universities is related not only with the "third mission" but in fact with the three missions of universities; that is a strong reason to consider them inseparable, as stated in the Brazilian Constitution.

For example, university research can be strongly linked to inclusive development. The emerging gamut of innovation policies as social policies can be seen as a main component of the propositional approach to inclusive development. That component includes university programs aiming at connecting research and innovation with social inclusion. In an Innovation Systems perspective, such programs are based on the collaboration of several different actors: academic teams, governmental departments, NGOs, social groups with pressing problems but without market

potential to foster innovations that may solve them. Combining insights from the interactive user–producer approach to Innovation Systems (Lundvall 1985) with Sen's perspective, such groups are considered not as patients but as agents, from the very definition of the problem to the eventual implementation of solutions. As suggested by a knowledge-based notion of inclusive development, such programs aim at including problems of social exclusion in the agenda of the highest quality research in universities. That involves humanities and arts, social sciences, health, technologies, and natural sciences: the whole landscape of knowledge and culture that universities are mandated to cultivate. What has just been said is a way, among several possibilities, of stressing that the developmental character of a university is closely related with its research mission.

A similar assertion can be made concerning the teaching mission. Knowledge-based inclusive development aimed at the expansion of capabilities and freedoms naturally points to widening access to higher education as well as to its connections with innovation processes. It points particularly to fostering active teaching, centered in the students and in learning how to keep on learning; that is obviously related with problem-based learning and studying in creative contexts, which gives an ever increasing relevance to the combination of teaching with research. An inclusive development perspective of teaching stresses its connections with problem solving (or innovation widely understood), especially when related with facing social exclusion. One way among others of doing that is to integrate activities of extension—in the sense previously recalled when speaking of the Brazilian universities—to the teaching curricula of universities. The connection of teaching, already at undergraduate level, with research and extension is thus fundamental for what we see as the developmental role of universities.

Such developmental role is thus related with the three missions of the university, and not only with the so-called third mission. Moreover, that role includes cooperation with external actors also in teaching and research. Since cooperation with non-academic actors is naturally an aspect of every type of "third mission," let us pause to analyze what kind of cooperation is suggested by a notion of inclusive development as the one we are working with.

Technology transfer, as previously indicated, is seen in some contexts as the main example of the third mission of universities. Now, the experience of development does not really encourage thinking of technology transfer in a strict sense, that is, as a one way relation going from those who give or sell the technology to those who receive it. That can work with standardized technologies; the task of universities should not be transference in such sense but to help in the use of advanced knowledge to solve problems in new ways, that is, to innovate. As stressed by the Innovation Systems approach, innovation processes are interactive learning processes. In user–producer interactions, the relevant knowledge is not only the one that producers of innovations have; what users know also counts if innovations are to be successful; in successful innovation processes, users of innovations learn, but also producers learn. (Lundvall 1985)

In other contexts, extension is identified with the third mission. Now, the word extension, as well as technology transfer, may suggest a one way relation going from

those who know to those who do not know. That unilateral way of understanding the concept has been strongly criticized, particularly in Latin American public universities, where instead the combination of the different types of knowledge of different actors is seen as a fundamental trait of extension activities. The unilateral notion, particularly when applied to services that universities offer to deprived sectors, amounts to seeing people as patients and not as agents, so it is alien to development à la Sen.

Thus, the agency aspect of the normative approach to development and the Innovation Systems component of the factual approach to development converge to the suggestion that extension services and, more generally, cooperation of developmental universities with other collective actors should be examples of interactive learning processes oriented to innovation and problem solving in general. In such processes, university actors must take into account what other actors know; they must also contribute to interactive problem solving with scientific knowledge of the highest international level that they can effectively manage. This is necessary for a "university that connects local interests with global research dynamics" as is said in Benner's already quoted description of the developmental university.

Now we attempt to refine the notion we are discussing.

The *Developmental University* is characterized by its commitment to inclusive development by means of the interconnected practice of three missions: (1) teaching, (2) research, and (3) fostering the socially valuable use of knowledge. Such commitment means that developmental universities must contribute to building Learning and Innovation Systems by cooperating with other institutions and collective actors.

1. The teaching mission aims at generalizing access to Higher Education, seen as lifelong advanced learning of increasing quality and increasingly connected with work, citizen activities, cultural expansion, and, in general, freedoms and capabilities for living lives that people value and have reason to value.
2. The research mission aims at expanding endogenous capabilities for generating knowledge—at local, regional, and national levels—in all the disciplines and in interdisciplinary activities, with international quality and social vocation.
3. The mission of fostering the socially valuable use of knowledge aims above all to cooperate with a wide variety of actors in interactive learning processes that upgrade the capabilities for producing goods and services as well as for solving problems, with priority given to the needs of the most deprived sectors.

Some Challenges for Developmental Universities

Developmental universities are main potential actors in innovation systems biased toward inclusive development. Consequently a relevant question is: can universities be developmental, at least partially?

> Several issues […] need to be studied in a comparative way in order to assess if the notion of Developmental University is useful, from an empirical point of view—what is really happening today?—, from a prospective point of view—which are the main possible

futures?—, and from a policy oriented point of view—what should be done? As a working conjecture we assume that the notion of Developmental University is useful in relation to the third question, quite probably concerning the second one, and perhaps also for giving partial answers to the first. (Arocena and Sutz 2011:95)

Concerning what is happening the following appreciation (Benner 2011:20) is very interesting.

The Nordic countries […] seem to be mimicking the US research governance model, with strong position for universities, a high profile in growing research areas, and strong ties between the research system and high-technology firms and sectors. Contrary to the development in USA and the UK, however, this governance model has been combined with a strong public support of research areas with connections to low-technology industries and to mature industrial fields such as food, engineering and the transport industry. Furthermore, the drive to concentrate resources to fewer recipients and fields has been balanced by regional considerations: the Nordic countries, with the partial exception of Denmark, have all made major investments in peripheral universities. Hence, the Nordic countries face the challenge of combining policy goals: resource concentration and adaption of research system to economic and regional interests.

The prevailing orientation for university reform and for knowledge policies in general backs a main trend: the concentration of resources and benefits of knowledge in some restricted sectors of production, geography, and society. "Knowledge-based inequality prevails in the contemporary world" (Tilly 2005:123). Knowledge-based inclusive development must on the contrary point to the diffusion of the benefits and power of knowledge, that is, to its democratization.

According to Benner, Nordic university policies are trying to go in that direction concerning both production and geography, by fostering research not necessarily connected with high-technology sectors and by investing in peripheral regions. Given the traditions and achievements of the Nordic social model, the possibility that some traits of developmental universities emerge in Nordic countries would be very relevant from a prospective point of view.

Countering knowledge-based inequality in the globalized economy seems to require strong knowledge policies for small and medium-sized enterprises (SME). "The traditional Swedish strength—some very large and successful, but mobile multinational companies (MNCs), contributing with about two-thirds of Swedish R&D—has increasingly been challenged by various manifestations of globalization. This has in turn meant that innovative SME now much more than before are at the policy focal point" (Brundenius et al. 2011:313).

The role of SME in innovation and above all social cohesion are considered as main explanations of Danish competitiveness and high incomes. "The first explanatory factor is related to the Danish welfare state model with its long tradition for emphasizing social cohesion." It includes "a relatively equal income distribution obtained by comprehensive redistribution mechanisms" as well as equal access to public-financed services as "education, health care, social services, environment, and infrastructure" (Gregersen and Rasmussen 2011:283). "A second hypothesis why Denmark has been able to maintain its high-income status has to do with continuous product, process, and market innovation carried out by the majority of small and medium-sized firms" (Gregersen and Rasmussen 2011:284).

Social cohesion is clearly a main purpose for inclusive development tasks. Let us consider some challenges for universities aiming to foster social cohesion.

Global Research and Local Needs

A "university that connects local interests with global research dynamics" is how Benner described the developmental university. "Academics are strongly influenced by policies regarding funding, hire, promotion, and tenure. Often universities that compete internationally for academic prominence do not reward applied research—let alone service—despite rhetoric to the contrary. […] At best there are two tiers of faculty: the most prominent scholars who do advanced research, and their lower-status colleagues who provide 'public service', perhaps to improve the university's relations with its neighbors" (Levine 2007:261). The challenge is to reward not only outstanding research at an international level but also "reward scholars who break new ground in their disciplines by working with communities." This "strategy of using community engagement to achieve genuine scholarly insight is better suited […] than a strategy based on 'service'" (Levine 2007:262).

In order to describe a major challenge, quotations in this paragraph are taken from the above characterization of a Developmental University (see Section "What University for Inclusive Development?"). Its research mission "aims at expanding endogenous capabilities for generating knowledge—at local, regional and national levels—, in all the disciplines and in interdisciplinary activities, with international quality and social vocation." Usually prevailing academic evaluation systems reward international quality but less so the particularly difficult and time-consuming combination of such quality with social vocation. Those evaluation systems do not really encourage the third "mission of fostering the socially valuable use of knowledge" by cooperating "with a wide variety of actors in interactive learning processes that upgrade the capabilities for producing goods and services as well as for solving problems, with priority given to the needs of the most deprived sectors."

A Developmental University needs a development-oriented evaluation system. Entrenched academic interests don't make it easy to change prevailing patterns of evaluation. Thus the issue of university governance appears at the forefront. Before discussing it, let us briefly consider what can push public policies for research and innovation to adopt a development-oriented evaluation system.

For example: "In the case of innovation policies considered as social policies, given that the articulating role of the state is still more important and needs to connect more diverse actors than in other innovation policies, [… we must inquire] which sectors of the state apparatus may be willing to promote these tasks of connection and articulation. This begs the question of which economic interest may promote the emergence of organized networks involving these innovation policies. In this respect, an analogy can be made with the protection of 'infant industries'. This would point to a type of specialization with high added value in the form of knowledge and skills related to social inclusion" (Arocena and Sutz 2014:31). Is such "pat-

tern of specialization" feasible? Cuba has systematically fostered endogenous high level research in health to cope with some needs of its population that in other "Southern" countries can only be met by scarcely affordable imports. As a consequence, Cuba is exporting medicines (Núñez Jover et al. 2011:105; Lage 2011).

Who Governs and for Whom?

In a sense, universities have always maintained a certain degree of ties with influential segments of society, and not only engaged in obscure *l'art pour l'art* pursuits as critics have sometimes been fond of maintaining. The medieval universities' religious teaching and 'finding God in science' worked toward fulfilling the wishes of the rulers, as did later the Humboldtian university with education and science as instruments for shaping the student's character and perception of the world. It is with the advent of the comprehensive mass education facilities of the late twentieth century, however, that the more precise tasks and obligations of the university have become a concern for broader segments of society" (Brundenius and Göransson 2011:348). Fulfilling the wishes of the rulers was often combined with serving the interests of academic oligarchies. The traditional university in Germany has been described as combining political regulation by the former with professional self-control by the latter. Such "traditional organization […] is largely the opposite of the New Public Management model." The last "is characterized by the call for more market orientation, less regulation, and strong leadership (Schmoch 2011:275).

Are fulfilling the wishes of some of the political, economic, and academic elites the only feasible alternatives?

Since the Reformation in 1536, universities in Denmark have been state institutions, but with some degree of autonomy. This means that a collegial governance system based on the professors through a senate has governed the university. Starting 1968, the students demanded more influence on decision making within the universities, and in the beginning of the 1970s, the governance structure that functioned during the next couple of decades was passed by the parliament. In this act, the university senate consisted of a share of 50 % professors, 25 % students, and 25 % technical administrative staff. Their constituencies within the university elected their members of the senate, and the same constituencies in the same proportions elected the rector. (Gregersen and Rasmussen 2011:291)

With some "Latin American-centrism" we can say that the Danish University Reform started in 1968 was a Northern version of the Latin American Movement for University Reform; the last started in 1918 and, in one way or other, deeply influenced universities and politics in every country of Latin America. Its ideals included the democratization of the university, mainly by incorporating students to the governance structure, in order to weaken ties with dominant elites and strengthen them with popular sectors, by fostering extension services and by taking part in popular struggles.

From the Latin American Reform point of view, the prevailing model for university governance amounts to a Counter-Reform. It frequently combines the New Public Management orientation with a "Hierarchical Top-Down System," as in Denmark, where by the act put in operation in 2003 a "university board with a majority of external members from business, cultural institutions and foreign

universities formally got most of the power that hitherto had been located in the senate. Furthermore, the rector, the deans, and the heads of the departments are appointed, not elected" (Gregersen and Rasmussen 2011:292).

Can attempts to democratize the university and to weaken its ties with dominant elites open some possibilities to democratization of knowledge in a socially inclusive perspective, or are they bound sooner or later to end in some kind of autarchy, where slow decision-making processes reflect particular interests of academic elites and other internal groups?

A Fundamental Task

Generalization of access to Higher Education is an evidently not a sufficient condition for democratization of knowledge but an absolutely necessary one.

In Europe it is often heard that "the number of students is decreasing due to low birth rates and an ageing society" (Schmoch 2011:277). Accepting that enrollment in universities must consequently decrease is the road to failure. Moreover, it is an outdated appreciation. Nowadays Higher Education must be "seen as lifelong advanced learning of increasing quality and increasingly connected with work, citizen activities, cultural expansion, and, in general, freedoms and capabilities for living lives that people value and have reason to value" as proposed in the section "What University for Inclusive Development?" for the teaching mission of the Developmental University.

Lifelong advanced learning does not refer to some complementary courses now and then; it is the core of educational transformation in our time. Social cohesion and economic performance are directly related with such transformation. Not coincidently "Denmark has a long tradition of adult education and training—including vocational training. […] the Danish work force is among the most active when it comes to participating in continuing education and lifelong learning activities" (Gregersen and Rasmussen 2011:288). Many universities have traditionally shown an aristocratic disgust toward vocational training, thus contributing to the stratification of post-secondary education in the contemporaneous version of the separation between manual teaching and intellectual teaching of yesterday. That is not only normatively wrong—highly nondemocratic—but also politically wrong: it hampers development which is increasingly knowledge based. The alternative is to upgrade adult education in general by combining it with creative activities, in the best tradition of the Humboldtian University but in a democratized version that takes notice that learning to learn takes place not only in universities but in society at large, and particularly in combination with nonroutine work. Referring again to Denmark, during the last years "an increasing number of employees have participated in part-time further education, mainly at the master's level" (Gregersen and Rasmussen 2011:294).

What Schmoch (2011:280) says for Germany is valid in general: "the first mission of the universities, i.e., teaching, will get a new impetus." Inclusive development requires that to be a profoundly democratizing impetus. This is perhaps the main gauge of the developmental role of universities.

Toward a Prospective Approach

Existing universities—particularly big public universities—are usually complex and heterogeneous organizations that seldom can be described essentially by one model or "ideal type." When a really existing university is analyzed by comparing different models, what is usually seen is a "mixture" of those models albeit in different "proportions."

In that sense it can be said that the entrepreneurial university is today the dominant model because: (1) in factual terms several traits of that model can be detected as important or even fundamental characteristics of many universities almost all over the world, particularly the most influential universities of the North; (2) in prospective terms the "tendential scenario" seems to be the expansion of the entrepreneurial role of universities, a trend fostered by the consolidation in the North of the capitalist knowledge society; (3) in propositional terms that model is akin to the projects for university reform of many governments (and at this level any other model scarcely competes, although perhaps most governments just don't have a structured policy for universities).

The basic assumption of this paper is that an alternative model is needed as an orientation for better connecting universities with inclusive development. Thus the question about the feasibility of developmental universities is in fact a set of questions concerning the actual situation and future possibilities of the components of such notion.

Such possibilities are shaped by several factors that must be studied in each specific context. They include surely among others the following ones: (1) the role of knowledge in general and, particularly, the relative strength of different knowledge demands stemming from economic and social dynamics; (2) prevailing economic policies and their guiding models; (3) explicit or implicit public policies for education and innovation; (4) the academic reward system, as shaped by the interaction of "internal" and "external" influences; (5) international academic relations and their aims (again explicit or implicit); (6) prevailing student attitudes concerning what they expect and/or demand from universities, and in particular the motivations of those students that get involved in decision-making processes; (7) orientations of social movements and especially their attitudes toward advanced knowledge (estrangement, distrust, hostility, more or less informed positive expectations, willing to get involved in related policies and actions, etc.).

In the last section three main challenges for developmental universities were considered. Namely: (1) connecting advanced research at a global level with social and local needs, (2) designing governance structures that open some possibilities of combining in a relatively coherent way autonomous initiatives of universities, connections with civil society, and cooperation with public policies when oriented toward inclusive development, without subordinating universities to the interests of external or internal elites; (3) reshaping the "first mission" of universities, teaching, in ways that contribute to generalize access to lifelong advanced learning, a main prerequisite for social inclusion in the twenty-first century.

Perhaps the most fundamental problem is: who are the stakeholders? That is, which groups, strata, or movements, in universities and in society at large, are such that their material and ideal interests can be connected with fostering the developmental traits of universities?

References

Acemoglu, D., & Robinson, J. (2012). *Why nations fail*. New York: Crown Publishers.

Arocena, R., Göransson, B., & Sutz, J. (2012, November). *Development universities and knowledge policies*. Paper presented at the Unidev Meeting, Hanoi, Vietnam.

Arocena, R., Göransson, B., & Sutz, J. (2014). Universities and higher education in development. In B. Currie-Alder, R. Kanbur, D. Malone, & R. Medhora (Eds.), *International development. Ideas, experience, and prospects* (pp. 582–598). Oxford: Oxford University Press.

Arocena, R., & Sutz, J. (2001). Changing knowledge production and Latin American Universities. *Research Policy, 30*(8), 1221–1234.

Arocena, R., & Sutz, J. (2010). Weak knowledge demand in the South, learning divides and innovation policies. *Science and Public Policy, 37*(8), 571–582.

Arocena, R., & Sutz, J. (2011). Uruguay: Higher education, national system of innovation, and economic development in a small peripheral country. In B. Göransson & C. Brundenius (Eds.), *Universities in transition* (pp. 77–96). Springer: New York.

Arocena, R., & Sutz, J. (2014). Innovation and democratisation of knowledge as a contribution to inclusive development. In G. Dutrenit & J. Sutz (Eds.), *National innovation systems, social inclusion and development. The Latin American experience* (pp. 15–33). Cheltenham, UK: Edward Elgar.

Benner, M. (2011). In search of excellence? An international perspective on governance of university research. In B. Göransson & C. Brundenius (Eds.), *Universities in transition* (pp. 11–24). New York: Springer.

Brundenius, C., & Göransson, B. (2011). The three missions of universities: A synthesis of UniDev project findings. In B. Göransson & C. Brundenius (Eds.), *Universities in transition* (pp. 329–352). New York: Springer.

Brundenius, C., Göransson, B., & Agren, J. (2011). The role of Academic Institutions in the National System of Innovation and the Debate in Sweden. In B. Göransson & C. Brundenius (Eds.), *Universities in transition* (pp. 307–325). New York: Springer.

Ca, T. N., & Hung, N. V. (2011). Vietnam: Current debates on the transformation of academic institutions. In B. Göransson & C. Brundenius (Eds.), *Universities in transition* (pp. 119–142). New York: Springer.

Chang, H.-J. (2002). *Kicking away the ladder: Development strategy in historical perspective*. London: Anthem Press.

Chataway, J., Hanlin, R., Mugwagwa, J., & Muraguri, L. (2010). Global health social technologies: Reflections on evolving theories and landscapes. *Research Policy, 39*, 1277–1288.

de la Motte, & Paquet, G. (Eds). (1996). *Evolutionary economics and the new international political economy*. London: Pinter.

de Mello, J. M. C., Maculan, A. M., & Borges Renault, T. (2011). Brazilian universities and their contribution to innovation and development. In B. Göransson & C. Brundenius (Eds.), *Universities in transition* (pp. 53–76). New York: Springer.

Etzkowitz, H. (2004). The evolution of the entrepreneurial university. *International Journal of Technology and Globalization, 1*(1), 64–77.

Gokhberg, L., Kuznetsova, T., & Zaichenko, S. (2011). Russia: Universities in the context of reforming the national innovation system. In B. Göransson & C. Brundenius (Eds.), *Universities in transition* (pp. 247–260). New York: Springer.

Göransson, B., & Brundenius, C. (Eds.). (2011). *Universities in transition*. New York: Springer.

Gregersen, B., & Rasmussen, J. G. (2011). Developing universities: The evolving role of academic institutions in Denmark. In B. Göransson & C. Brundenius (Eds.), *Universities in transition* (pp. 283–305). New York: Springer.

Hayan, W., & Yuan, Z. (2011). China: Challenges for higher education in a high growth economy. In B. Göransson & C. Brundenius (Eds.), *Universities in transition* (pp. 143–170). New York: Springer.

Lage, A. (2011). Global pharmaceutical development and access: Critical issues of ethics and equity. *MEDICC Review, 13*(3), 16–2.

Levine, P. (2007). Collective action, civic engagement, and the knowledge commons. In C. Hess & E. Ostrom (Eds.), *Understanding knowledge as commons. From theory to practice* (pp. 247–275). Cambridge, USA: The MIT Press.

Lundvall, B. A. (1985). *Product innovation and user–producer interaction* (Industrial development research series, Vol. 31). Aalborg: Aalborg University Press.

Lundvall, B. A. (2010). Post-cript. In B. A. Lundvall (Ed.), *National systems of innovation. Towards a theory of innovation and interactive learning* (pp. 317–349). London: Anthem Press.

Maharajh, R., Motala, E., & Scerri, M. (2011). South Africa: Reforming higher education and transforming the national system of innovation. In B. Göransson & C. Brundenius (Eds.), *Universities in transition* (pp. 193–218). New York: Springer.

Mulgan, G. (2007). *Social innovation. What it is, why it matters and how can it be accelerated*. Skoll Centre for Social Entrepreneurship Working Paper, Oxford Said Business School.

Mwamila, B. L. M., & Diyamett, B. D. (2011). Tanzania: The evolving role of universities in economic development. In B. Göransson & C. Brundenius (Eds.), *Universities in Transition* (pp. 171–191). New York: Springer.

Nelson, R. (2003). *Physical and social technologies, and their evolution*. LEM Papers Series 2003/09, Laboratory of Economics and Management (LEM), Sant'Anna School of Advanced Studies, Pisa, Italy.

North, D. C. (2005). *Understanding the process of economic change*. Princeton: Princeton University Press.

Núñez Jover, J., Montalvo Arriete, L. F., Pérez Ones, I., Fernández González, A., & García Cuevas, J. L. (2011). Cuba: University, innovation and society: Higher education in the national system of innovation. In B. Göransson & C. Brundenius (Eds.), *Universities in transition* (pp. 97–118). New York: Springer.

Piketty, T. (2014). *Capital in the twenty-first century*. London: Harvard University Press.

Reddy, P. (2011). The evolving role of universities in economic development. In B. Göransson & C. Brundenius (Eds.), *Universities in transition* (pp. 25–49). New York: Springer.

Sabato, J., & Botana, N. (1968). La ciencia y la tecnología en el desarrollo futuro de América Latina. Revista de la Integración 3 (Buenos Aires).

Schmoch, U. (2011). Germany: The role of universities in the learning economy. In B. Göransson & C. Brundenius (Eds.), *Universities in transition* (pp. 261–282). New York: Springer.

Sen, A. (1999). *Development as freedom*. Oxford: Oxford University Press.

Sutz, J. (2005, April). The role of universities in knowledge production. *SciDevNet, Policy Briefs* [published with the subtitle "Developing countries should promote developmental universities"] Retrieved from http://www.scidev.net/dossiers/index.cfm?fuseaction=policybrief&dossier=13&policy=59. Published also in *Journal of Himalayan Science, 3*(5), 53–56, January–June 2005.

Tilly, C. (2005): Identities, Boundaries, and Social Ties, Paradigm Publishers, Boulder, Colorado, USA.

UNDP. (2011). *Human Development Report 2011—Sustainability and equity : A better future for all*. New York: United Nations Development Program.

Chapter 4
Social Development as an Academic Mission of Brazilian Universities: Public Policies and the Case of the Federal University of Rio de Janeiro

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Abstract This chapter explores to what extent public policies foster inclusiveness at higher education institutions in Brazil. It also looks at the role of Brazilian higher education institutions in inclusive and social development, often referred to as the third mission of universities. The analysis of public policies for higher education and Science, Technology and Innovation (STI) for social development reveals a fragmented environment, with little interaction between the initiatives in place. Based on the analysis of the specific case of the Federal University of Rio de Janeiro, it is clear that, although successful examples of integrating teaching and social development can been found, examples of research and extension activities focusing on social development are exceptions. Moreover, they are the result of individual efforts, not of institutional or government policy. The lack of institutionalization and the isolation in which these actions are carried out make such initiatives fragile and dependent on the individuals who created them.

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Introduction

In recent decades, innovation has emerged as an important driver for the competitiveness and economic growth of regions and countries. On the other hand, the benefits of economic growth are not automatically translated into improved living conditions for the poorest segments of the population. It is increasingly clear that economic growth alone does not guarantee a reduction in social inequalities. Further, there is evidence that social inequalities can have a negative impact on economic growth (OECD 2013). Johnson and Andersen (2012) point out that there is evidence that the rapid pace of the process of technical change and economic growth may be accompanied by an increase in social inequalities and disparities.

The report "Innovation for Inclusive Growth" (OECD 2013) points out that innovation policies have been evaluated solely in relation to their impact on economic growth and that the possible impact on social inequality and the environment does not receive enough attention. Similarly concepts such as social innovation, inclusive innovation, and inclusive development have appeared more and more often on the agenda of public policies for innovation.

The literature recognizes that universities play an important role in the innovation process as shown by Clark (1998), Etzkowitz (2002), and Göransson and Brundenius (2011). On the other hand, there is a lack of studies on the role of universities in social development. How have academic missions geared innovations to promote social and inclusive development?

In Brazil the concepts of social and inclusive innovation are not included in the basic documents of public policies for innovation, nor are they included among those for higher education, although the subjects inclusion and social development are very present in public policies for higher education and science, technology, and innovation (STI).

The central focus of the analysis in this chapter is the third mission of universities, and the public policies addressing this issue in Brazil. The analysis is divided into six sections, in which the first is dedicated to the general presentation of the work. In the second section we present a discussion of social and inclusive innovation and the role played by universities in socioeconomic development. In the third section we discuss existing policies in Brazil to promote access to higher education for the poorest segments of society. In the fourth section we present the Brazilian context of STI policy for social development and the university social extension policy. In the fifth section we present the case study of the Federal University of Rio de Janeiro, and in the sixth and final section we offer some final considerations.

Social and Inclusive Innovation and the Role of Universities in Socioeconomic Development

Social innovations are defined by the European Commission (2013) as the "development and implementation of new ideas (products, services and models) to meet social needs and create new social relationships or collaborations. It represents new

responses to pressing social demands, which affect the process of social interactions." The Stanford Center for Social Innovation defines social innovation as "a new solution to a social problem that is more effective, efficient and sustainable than then existing solutions, and for which the value created reverts to society as a whole, rather than just to individuals".

Behind the discussions of the issue of social innovation is the argument, particularly in Europe, that there needs to be a way to maintain the social well-being of citizens in a changing world (BEPA 2011). The increasing demands on public services need more innovative and efficient solutions than those currently available. Furthermore, authors working with the concept of inclusive innovation (Hall et al. 2012; George et al. 2012) have a distinct focus, and start from the premise that there are individuals or social groups that are excluded and therefore do not enjoy the benefits of the state's social welfare policies. That is, the starting point of both arguments is different: in the discussion of social innovation, more present in advanced countries, there is a concern to innovate to *avoid exclusion* while the discussion of inclusive innovation assumes a context in which *exclusion already exists*.

Inclusive innovation is the driving force behind inclusive development, a structural change process that empowers excluded groups by placing them at the center of a process of change that involves the institutionalization of mechanisms for redistribution of income and social empowerment (Johnson and Andersen 2012). The involvement of socially excluded groups in finding solutions to societal problems is a central theme in the studies of authors who work with the concept of inclusive innovation.

Some authors are critical of the approach of Prahalad (2007) which highlights the existing market potential at the bottom of the pyramid; the criticism of these authors is based on the assertion that the poor should not only be seen as consumers but should also play a more active role in the social development process (Hall et al. 2012; George et al. 2012). Karnani (2007) states that "rather than viewing the poor primarily as consumers, an alternative approach is to focus on the poor as producers and to give more emphasis to buying from the poor. The only way to alleviate poverty is to raise the real income of the poor."

The complexity inherent in the inclusive development process is often explored in work on the subject since the groups who should have a leading role in this process generally do not have the required capacities. Bradley et al. (2012) argue that poverty is not just a resource allocation problem, it is not just a process to increase people's incomes through innovation and entrepreneurship, but to create the conditions that can help these people become the leaders in the social inclusion process.

Hall et al. (2012) present a distinction between policies for social development and that are implemented in a "top down" and "bottom up." "Top down" type policies generally consider the excluded groups to be passive actors in the development of solutions to their social problems, while bottom up policies place the excluded in leadership positions in the process. Hall et al. (2012) conclude that the "bottom up" type policies are more effective in promoting social development.

The literature recognizes that inclusive development requires strategies that combine education with innovation policy (Johnson and Andersen 2012). Therefore the development of education and research systems is essential to the process of

social inclusion. There is a gap in the literature regarding the role that universities play in promoting social innovation and inclusion in the development process. Although the debate about how universities are involved in the innovation process geared to competitiveness and growth is largely explored in the literature, the same is not true when it comes to the role of universities in developing innovations aimed at social development.

Van der Steen and Enders (2008) call for more attention to the institutional idiosyncrasies that add variety in response to the evolving demands of universities over time. The roots of modern universities lie in the medieval cathedral and monastic schools that were devoted to the study of the religious thought. The main objective of these universities was providing education for ecclesiastical class. The early evolutions of the medieval university arose with the aim of applying knowledge and improving the functioning of society by educating students in law, medicine, and theology; in this early phase universities were concentrated mostly in the application and reproduction of previous knowledge.

In the early nineteenth century universities underwent a structural transformation, with the introduction of research as an academic responsibility in addition to teaching. The benchmark of this transformation was the foundation of the University of Berlin in 1810 guided by the ideas of Wilhelm von Humboldt, and the notion that education should be integrated with research. As presented by Arocena et al. (2014), the consequences of this change were enormous, including the institutionalization of research and the emergence of the professional scientist.

Etzkowitz (2002) calls this incorporation of research the first academic revolution, while the second one was the rise of what he calls entrepreneurial science, carried out by entrepreneurial universities. These universities incorporate the third mission, in addition to teaching and research, social change, and the promotion of economic development through technology transfer and support for the creation of technology-based companies.

Brundenius et al. (2009) stress the consensus around the assertion that universities are key players in the knowledge society; questions like "in what sense" and "for whom those institutions are important" are far from receiving unanimous answers. The authors explore the concept of the third mission with a limited or a broader view. The limited view of the third mission focuses on the interaction between universities and the business sector to promote technical innovation in high technology. The broader view encompasses the relation of universities and society at large. Generally authors that use the limited view focus their research on topics such as technology transfer, science parks, and the creation of spin-offs. The ones that work with the broader view highlight the importance of diverse channels that universities use to interact with the society as a whole.

Within the strict view of the third mission emerges the concept of *Entrepreneurial University* (Clark 1998; Etzkowitz 2002) as institutions that actively seek to promote economic development through the application of the academic knowledge in the market. The strict and broad perspectives are not mutually exclusive. Gunasekara (2004) presents a view of the third mission with two main roles: the generative and

the developmental. The first one is focused on the limited view of the third mission and the second is connected to the broader view. He presents the concept of *Engaged University* that mixes the generational and the developmental roles in order to promote social and economic development.

Arocena et al. (2014) propose the concept of *Developmental University* as the one that provides effective incentives to include in their research agendas the kind of problems whose solutions can lead to the democratization of knowledge. The authors highlight the weak demand for technical knowledge in the South and the cognitive distance between academic knowledge and the society needs at large. The author concludes that encouraging universities to engage in concrete social demands might break through this cognitive barrier.

In short, universities have an important role to play in the innovation process. In the next section we will see how the theme of social inclusion has been included in the public policy agenda to make higher education more inclusive and accessible to members of disadvantaged social classes in Brazil.

Inclusiveness at Higher Education Institutions

Between 2000 and 2010, the percentage of adults worldwide who have received tertiary education rose from 19 to 29 % (Gibney 2013). Brazil is no exception to this worldwide phenomenon of rising tertiary enrollments. Total undergraduate enrollments in Brazil rose from just over 2.6 million in 2000 to over 7.3 million in 2013 (INEP 2001, 2015). The population of students in the tertiary sector in Brazil is fourth in size, after that of China, India, and the United States (Gibney 2013).

This section will analyze the main characteristics of the expansion of the higher education system in Brazil, the degree of inclusion in social and ethno-racial terms reached, and the specific public policies that have been implemented for that purpose.

The Higher Education System: Expansion

It was only at the beginning of the last century, in 1808, when the Portuguese crown, threatened by Napoleon's invasion of Metropolis, moved to Brazil with the whole court, which began the history of higher education in the country. In the same year with the arrival of the Portuguese king (then throne regent), three autonomous schools were founded: Surgery and Anatomy, Bahia, today Faculty of Medicine of the Federal University of Bahia; and Anatomy and Surgery of Rio de Janeiro, now Faculty of Medicine, Federal University of Rio de Janeiro; and Guard Academy of the Navy, also in Rio. Two years later, in 1810, the Royal Military Academy was founded, which turned into Polytechnic School, now School of Engineering of the Federal University of Rio de Janeiro (Mello et al. 2011; Durham 2003).

From 1808 to 1889, the year of the proclamation of the Republic, the higher education system developed slowly, in step with the shallow social and economic transformation of Brazilian society, ending up with 24 higher education institutions (HEIs) in operation (Sampaio 1991). It was a system focused on teaching, which ensured a professional diploma, which gave the right to occupy privileged positions in the narrow existing labor market and ensuring social prestige.

With the proclamation of Republic, in the year 1889, Brazil enters a period of great social change, affecting the education system. The Constitution of the Republic decentralizes higher education, allowing the creation of new institutions both by other levels of government (state and municipal), and allowing the creation of private institutions, either by local elites initiatives seeking to provide their states with higher education institutions or by religious (mostly catholic) institutions, both private but non-for-profit institutions.

Those institutions were at the beginning autonomous schools, whether public, or private, which each worked in its unique area of expertise (medicine, engineering, law, etc.), and were exclusively dedicated to training professionals. It was only in 1920 that the first federal university was created, the University of Rio de Janeiro. However, it took until 1934, with the creation of the University of São Paulo, that a university also got a second mission, namely to develop scientific research in addition to its main mission so far, the training of high skilled people (Mello et al. 2011). These dichotomies between public and private, university and autonomous schools, have always been present in the Brazilian higher education system.

From 1930 up until 1960 the higher education system experienced an expansion in terms of number of higher education institutions (HEIs) as well as in terms of enrollments, with a predominant participation of the public sector as seen in Table 4.1.

Although enrollments increased three times between 1933 and 1960, the number of students enrolled in 1960 was still quite modest, mirroring the great inequality still reigning at the time, with an illiteracy of nearly 40 %, in a country with a population around 40 million inhabitants.

From the mid-1960s the higher education system began to expand significantly, taking as a measure either the number of HEIs or the number of students enrolled in undergraduate courses, provided by public or HEIs. It was an expansion driven by intensive pressure from various segments of Brazilian society, which was becoming more urban and industrialized, and for which higher education was seen as an imperative for social mobility. However, largely due to the severe economic crisis in Brazil in the 1980s, this expansion slowed down at the end of the period (see Table 4.2).

By 1980 the higher education system was composed by 882 institutions, of which 77.3 % being private ones, and with 1.4 million enrollments, of which 64.2 % were studying at private institutions. From 1980 to 1995 the expansion was very moderate. By 1995 the system was composed of 894 institutions, of which 76 % being private ones; and 1.8 million enrolled students, 60.2 % enrolled in private institutions.

Table 4.1 Expansion of the higher education system 1930–1960

Year	Number of HEIs	Enrollment (number)	Share enrolled in public HEIs (%)
1933	86	33,273	56
1945	181	40,975	52
1960	404	95,691	56

Source: Number of HEIs, Teixeira (1961) and Durham (2003)
For enrollments figures, Durham (2003), Sampaio (1991), Barreyro (2008)

Table 4.2 Evolution of the undergraduate higher education system in Brazil (1960–1995), by number and type of HEIS and by enrollment in undergraduate courses

	1960	1970	1980	1990	1995
Total HEIs	404	639	882	918	894
Public HEIs	n.d.	171	200	222	210
Private HEIs	n.d.	468	682	696	684
Total enrollment	95,691	425,478	1,377,286	1,540,080	1,759,703
Public enrollment	53,264	210,613	492,232	569,625	700,540
Private enrollment	42,067	214,865	885,054	970,455	1,059,163

Source: BRASIL MEC INEP Sinópse da Educação Superior (1995), Sampaio (1999)

Table 4.3 Evolution of the undergraduate higher education system in Brazil (2000–2013), by number and type of HEIS and by enrollment in undergraduate courses

	2000	2005	2010	2013
Total HEIs	1180	2165	2378	2391
Public HEIs	176	231	278	301
Private HEIs	10,004	1934	2100	2090
Total enrollment	2,695,927	4,567,798	6,379,299	7,305,977
Public enrollment	888,708	1,246,704	1,643,298	1,932,527
Private enrollment	1,807,219	3,321,094	4,736,001	5,373,450

Source: BRASIL MEC INEP "Sinópse da Educação Superior" (2000, 2005, 2010, 2013)

After 1995, there is a new cycle of expansion of the higher education system, and again a prominent role played by the private sector, as given in Table 4.3.

Between 2000 and 2013, the number of HEIs more than doubled, reaching 2391 institutions in 2013, of which 87.4 % were private. Enrollments grew 2.7 times reaching 7.3 million enrollments in 2013, of which 73.54 % were studying at private institutions.

What is interesting to observe is the spectacular expansion of the private HEIs in this period, especially the increase of for-profit institutions, legally allowed to function as such only since 1999. By 2000, just a year after their legal approval, this new subsector already enrolled 18 % of the private sector HEIs, and 12 % of the enrollments. By 2010, over two million students were enrolled at for-profit institutions, representing 43 % of the private sector and 32 % of the overall system, as given in Table 4.4).

Table 4.4 Expansion of the for-profit sector, 2000–2010

	2000	2010
Total enrollment	2,695,927	6,379,299
Public enrollment	888,708	1,643,298
Private nonprofit enrollments	1,483,708	2,694,626
Private for-profit enrollments	323,511	2,041,375

Source: INEP "Sinópse da Educação Superior" (2015)

The for-profit boosted its size by over six times in the 2000–2010 period, compared to 1.8 times for both the private nonprofit sector and the public sector.

This growing role of the for-profit sector in Brazilian higher education has been subject to criticism regarding the quality of education offered by this sector, taking into account that 95 % of this profit sector consists of institutions, not universities. As noted by what is more worrying is that it seems that this sector is likely to be growable because (1) more and nonprofit institutions are switching their legal status; and (2) domestic and international publicly stock companies are incorporating former nonprofit institutions in their business portfolios.

The Higher Education System: Present Landscape for Social and Racial Inclusion

There has thus been a significant expansion of the higher education system, both in terms of higher education institutions and in terms of enrollments. This expansion has also been accompanied by greater democratization and better access to the system, in terms of social and ethno-racial inclusion.

Social Inclusion

Firstly, let us consider the family income of students enrolled in higher education among public and private institutions, for the period 2005–2014 (see Table 4.5). Data show that the share of the poorest 20 % of the population (fifth quintile) with family members in public universities increased fourfold between 2005 and 2014. These students represented 1.9 % of the total in 2005 and rose to 7.6 % in 2014. At the same time, the share of the richest 20 % families (first quintile) fell from 52.4 % to 40.9 % in the period. The same phenomenon occurred at private universities, where the share of the richest quintile fell from 65.8 to 40.9 %, while the poorest quintile increased from 0.8 to 3.4 %. In this regard the data show no significant difference between the public and the private sector.

Table 4.5 Percentage distributions of students in public and private HEIs institutions, by income groups, 2005–2014

	2005		2007		2009		2011		2013		2014	
	Public sector	Private sector	Public sector	Private sector	Public sector	Private sector	Public sector	Private Sector	Public Sector	Private sector	Public sector	Private sector
First quintile	52.4	65.8	50.0	58.9	46.6	52.7	41.8	48.5	39.1	42.8	36.4	40.9
Second quintile	26.5	23.2	25.9	25.9	27.4	28.0	25.8	28.8	25.2	29.7	25.3	29.6
Third quintile	13.1	8.1	13.2	10.6	13.6	12.2	16.2	13.6	17.9	16.4	18.0	15.9
Fourth quintile	6.2	2.1	7.7	3.7	8.7	5.6	10.2	6.7	11.9	8.4	12.7	10.3
Fifth quintile	1.9	0.8	3.2	1.0	3.7	1.4	6.0	2.4	5.9	2.7	7.6	3.4

Source: IBGE, Pesquisa Nacional por Amostra de Domicílios 2004/IBGE 2014

Table 4.6 Gross and net enrollment ratios in higher education system 2001–2013

Years	2001	2003	2005	2007	2009	2011	2013
Gross enrollment rate	16.5	20.2	21.2	25.5	28.1	29.6	32.2
Net enrollment rate	9.2	11	11.4	13.3	14.7	14.9	16.5

Source: Observatório do PNE (2016)

Table 4.7 Net enrollment ratios at HEIs by race, 2005 and 2014

Year/reference	2005 (%)	2014 (%)
All	35.8	58.5
White students	51.5	71.4
Black and brown students	18.9	45.5

Source: PNAD (2015)

The enrollment ratio is another important issue. Let us consider the gross enrollment ratios (GER), defined as the percentage of total enrollments in higher education (irrespective of age) in relation to the 18–24 years age group, as well as the net enrollment ratios (NER), defined as the enrollment of the official age group for higher education (18–24) expressed as a percentage of the corresponding population of 18–24. Data for the period 2001–2013 is given in Table 4.6.

Despite the significant growth of these rates they are still below the goal set in the National Education Plan which is to successively raise the GER in higher education to 50% and the NER to 33%.

Ethno-Racial Inclusion

According to the Brazilian Household Survey (PNAD 2015), in 2014, more than half (53.6%) of the Brazilian population declared themselves as being black or brown.[1] Although black and browns are the majority of the Brazilian population, they are still well underrepresented at the Brazilian higher education system, in spite of the recent affirmative actions implemented by the Brazilian government (next subsection), as we can see when analyzing the school lag.

From the same household survey, data shows that from the total of black and brown students in the 18–24 years age group, 45.5% were enrolled in higher education in 2014, against 18.9% in 2005. This percentage is less that the one (51.5%) achieved by young white students 9 years before (Table 4.7).

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[1] The IBGE Brazilian Institute of Geography and Statistics (IBGE) in the Brazilian demographics census utilizes five groups of "color or race" to characterize the Brazilian population: white, black, brown, yellow, and indigenous. The IBGE manual defines the meaning given to the term "Brown" as people with a mixture of skin colors, comprising mulatto miscegenation (white and black descent), cabocla (white and Amerindian descent), cafuza (black and indigenous descent), or mestizo.

In summary, there has been a democratization of access to higher education in public and private networks. However, it was observed that the Brazilian educational debt is historic, especially regarding non-white population, although enrollment ratios at HEIs are also increasing for black and brown students.

Higher Education System: Policies for Inclusion

During the last cycle of expansion of the higher education system from 2000 and onwards, public policies have been implemented in order to broaden the system's degree of inclusion in social and ethnic-racial terms, at the public institutions as well as at the private institutions, with the objective of a more inclusive higher education system.

These policies range from reserving places in public institutions for disadvantaged students (students with a disability, coming from public schools and depending on low family income, belong to specific ethnic groups, etc.) to increase the refundable student funding (such as the Fund of Financial Aid—FIES) and nonrefundable (as the University for All Program—PROUNI), available to students from private institutions.

Quota System

The attempt to address the historical debt in the higher education system with respect to the black and brown population in particular, and with respect to social discriminated groups in general gave rise to a movement known as "racial and social quotas."

The decision by the State University of Rio de Janeiro—UERJ, to reserve places in 2002 for new entrants, either being black and brown or students with special needs, entering class for brown and black students and people with special needs, can be considered as the start of "the quota system." Places were reserved also for students from public high school, resulting in the following enrollment distribution of 20 % for black and brown students, 20 % for students from public schools, and 5 % for people with special needs.

Despite initial resistance, little by little the universities began to implement similar affirmative action programs, so that in 2012 there were 32 state universities participating (out of 38) and 40 federal public universities participating (out of 63). In 1997, only 2.2 % of mixed race and 1.8 % blacks, between 18 and 24 years, were enrolled in or had completed an undergraduate course in Brazil. In 2012, in large part due to these affirmative action programs, these proportions increased to respectively 11 % and 8.8 %.

After 2013 all federal public universities were required, under federal law 12.711 (called the Quota Act), to implement affirmative action policies and to set aside places for blacks and browns (ethno-racial quotas) and public school and low-

income students (social quotas). The enrollments of black and brown students should be in proportion to the share of the black and brown people in the population of each state, in accordance with the latest census.

In the federal public universities in 2012, that is before the law was enacted, 21.6% of seats were reserved for quotas, racial and social. In 2013, already under the impact of the new legislation, the percentage rose to 31.5%, about 59,200 in absolute numbers. In 2014 the percentage rose again to 40.3%, about 77,300 in absolute numbers; by 2016 at least half of the places offered by these institutions will be reserved for racial and social quotas.

The Censuses of Higher Education from 2009 to 2013 showed an increase in the percentage of students enrolled in public institutions (federal, state, and local) in face-to-face bachelor's degree programs, entering through the quota system. The percentage has doubled in this period, from 5.6% in 2009 to 11.6% in 2013. In total there was an increase of 808,902 to 1,123,580 students in these courses offered by the public sector during the period (IBGE/PNAD 2015).

PROUNI Program

The University for All Program (PROUNI) is a Ministry of Education program created in 2004 to make better use of unfilled vacancies available in the private sector of higher education, permitting the access of low-income students through an ingenious mechanism in which private educational institutions offer partial or full scholarships in exchange for tax exemptions. Students graduating from high school programs in public schools or with full scholarships in private schools are included in the program if they can show per capita income of less than one and half minimum wages (for full scholarships) or less than three minimum wages (for partial scholarships). Since 2007 it is allowed for students with partial scholarships served by Prouni to seek funding for the remaining amount of fees, through the government sponsored FIES student loans. Figure 4.1 shows the number of students with Prouni scholarships since its start in 2005.

From the whole period we have over 1.8 million students served with scholarships, 70% with full scholarships. Data for 2014 show the following composition of 1,497,225 students receiving scholarships with respect to race/color: white 686,189; brown 570,899; black 188,340; yellow 26,559; indigenous 1887 and 23,351 without information.

FIES Program

The Student Financing Fund (FIES) is a Ministry of Education program established in 2001 to finance the graduation in higher education for students enrolled in private higher education institutions. The application for funding is open for students that are enrolled
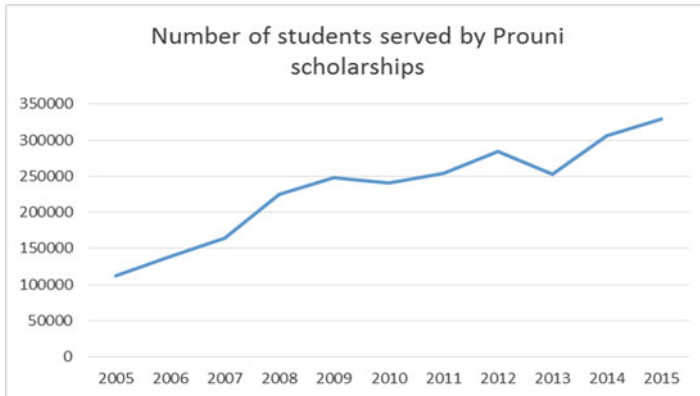
Fig. 4.1 Number of students with Prouni scholarships. *Source*: MEC/Sis Prouni (MEC 2016)

in higher education courses that have positive assessment in proceedings conducted by the Ministry of Education. In addition students should have a satisfactory result in the National Examination for Secondary Education and a gross monthly household income that per person does not exceed two and a half times the minimum wage.

In 2010, the FIES started to work in a new format: the financing of the interest rate was reduced to 3.4 %, grace period increased to 18 months, and the repayment period was extended. The National Fund for Education Development became the Program Operating Agent for formalized contracts from 2010. In addition, the financing percentage rose to up to 100 % and the inscriptions began to be continuous flow, allowing the student to apply for funding at any time of year.

After this reformulation the number of signed contracts has grown every year. In 2010, 76,200 contracts were signed (representing 6.5 % of students entering in the private higher education institutions in 2010), 154,300 in 2011, 377,800 in 2012, 560,000 in 2013 (representing 31 % of students entering in the private higher education institutions in 2013), and 731,300 in 2014 (MEC/Fies).

From the second semester of 2015, loans granted to FIES resources have an interest rate of 6.5 % per year in order to contribute to the sustainability of the program, providing its continuity. The aim is to also hold a realignment of interest rates to the present conditions in the economic environment and the need for fiscal adjustment. On the other hand, it is quite possible that with this increase in interest rate there will be a reduction in the number of contracts due to increased financial burden.

There is no doubt that the loan scheme has made some contribution to equity in the Brazilian higher education system, as corroborated by the number of students that have benefitted, many of whom would not otherwise have been able to undertake a university course. On the other hand, it could be the case that some students from poor families may be unwilling to take on such a large debt with the recent increase in interest rate. In any case, less affluent students are likely to remain in the lower cost courses.

The importance of the programs PROUNI and FIES for student financing is quite clear and documented (IBGE/PNAD 2015). Private institutions of higher education

(for-profit and nonprofit) also increased the percentage of enrollments associated with some kind of student funding. In 2009, the percentage of enrollments with some kind of nonreimbursable funding in face-to-face bachelor's degree programs in private institutions was 18.8 % and in 2013 this percentage reached 25.4 %, and 29.9 % of these scholarships were offered by PROUNI.

There was also an increase in the percentage of enrollments in face-to-face bachelor's degree programs in private institutions with reimbursable funding due mainly to FIES. This percentage rose from 5.9 % in 2009 to 21.6 % in 2013, with 92.0 % of the awards in the FIES. Thus, in 2009, 26.3 % of the 2,842,203 enrollments in private sector bachelor's program relied on some form of financial aid, whether through nonreimbursable financing or through subsidies of interest payments on student loans. In 2013, almost half (44.0 %) of the 3,427,528 students attending private bachelor's programs benefitted from some kind of financial assistance.

Brazilian Higher Education System: Final Considerations

The Brazilian higher education system underwent a major expansion in the last two decades. This expansion was mainly from private higher education institutions for profit. These institutions often proffer courses that do not get good evaluation of the education ministry. In this sense we can say that the private sector is responsible for the inclusion of millions of students in higher education, but this inclusion takes place unevenly, in low quality courses.

The net enrollment ratio in higher education increased from 9.2 to 16.5 % between 2001 and 2013. According to the Summary of Social Indicators (IBGE 2014), the share of the poorest 20 % of the population in public universities increased fourfold between 2004 and 2013. According to the survey, these students represented 1.7 % of the total in 2004 and rose to 7.2 % in 2013. At the same time, the share of the richest 20 % fell from 55 to 38.8 % in the period. The same phenomenon occurred in private universities, where the share of the richest 20 % fell from 68.9 to 43 %, while the poorest 20 % increased from 1.3 to 3.7 %.

The above data, in addition to reflecting increases in income and average schooling of Brazilians, certainly results from the impact of the programs that have been implemented since 2004 in the higher education system. As shown in this section there is a wide range of public policies supporting social inclusion in the private and public HEIs.

Social Development at Brazilian Universities

The discussion of social development in the context of higher education and STI activities in Brazil starts from the evolution of the *social extension movement*. The extension system was born in Brazil concomitantly with higher education in the 1930s and was defined from the beginning as an activity that sought to improve relations between the university and society. In the early stages university extension

courses consisted of training to prepare for services to be provided to the community outside the university (Forproex 2015).

In the early 1960s outreach activities took on a different form, as the National Students Union began a mobilization process around political and cultural movements focusing on the empowerment of excluded groups in society. After the military coup in 1964 there was a restructuring of this movement and efforts were channeled into welfare activities, especially health care services in rural and poor communities. The way they were designed and institutionalized by the military regime these activities involved only undergraduate students. No teachers were involved and the students were not integrated with other teaching or research (Forproex 2015).

In 1974 a group of university administrators produced a university extension plan of work and the conceptualization of these activities took up some of the ideas that had been discontinued in 1964 after the military coup. In the Plan of University Extension Project "extension" was defined as "institutional action aimed at meeting the needs of organizations and people that provided feedback in exchange for academic and popular knowledge." From this perspective, poorer communities were no longer the object and became the subject of extension activities. Furthermore, this new vision of extension incorporated not only the students but also the participation of teachers in these activities (Fraga 2012).

In the following years extension activities were developed in the context of the struggle for the country's democratization and restoration of social and political institutions. This movement culminated in the creation in 1987 of the National Forum of Pro-Rectors of Extension of the Public Universities in Brazil (Forproex) and the inclusion of a specific article in the Constitution of 1988, Article 207, which among other things institutionalizes extension activities making it an inseparable activity of teaching and research.

University extension activities were defined by Forproex (2015) as an educational, cultural, and scientific process that articulates teaching and research inseparably and enables a transformative relationship between university and society. This concept breaks with the view of extension work as a secondary activity in academic life, held apart from teaching and research.

The Extension Program (PROEXT) of the Ministry of Education

Support for institutionalized extension activities in Brazilian universities started with the establishment in 1993 of the Ministry of Education PROEXTE program. The program was discontinued after 3 years and was resumed only in 2003 under the name PROEXT.

In 2012 a new National Policy on University Extension was prepared to consolidate the guidelines that would be based on extension programs and to define a strategy for the expansion of these activities. According to the new document the guidelines that should guide the formulation and implementation of university

extension actions are: dialogic interaction; interdisciplinarity and interprofessionality; inseparability teaching-research-extension; impact on education Student; Impact and Social Transformation.

The dialogic interaction guides the development of relations between universities and social sectors marked by dialogue and exchange of knowledge; it is not over "extend to society the knowledge accumulated by the university," but to produce, in interaction with society, new knowledge.

The inseparability of education, research, and extension reaffirms university extension programs as part of the academic process. In this perspective extension activities are more effective if they are linked to the people formation process (Education) and the generation of knowledge (Research). The classic "student–teacher" teaching axis is now replaced by "axis student–teacher–community." These activities should be performed in order to generate impact and social transformation, especially in disadvantaged social sectors.

These basic principles are applied in the implementation of University Extension Program (PROEXT), which aims to support public institutions of higher education in the development of extension programs that contribute to the implementation of public policies. In 2014 this program provided R$ 15.3 million that was invested in 2226 projects performed by universities.

The STI Policies for Social Development

In 2003 with the creation of the Department of Science and Technology for Social Inclusion (Secis) in the Ministry of Science, Technology and Innovation, the discussion of the development of a science and technology policy for social development began. In the period 2003–2007 there were some initiatives, events, and specific notices but it was not until 2007 that the objectives, strategic priorities, and guidelines for the Action Plan of the Ministry of Science and Technology for the period from 2007 to 2010 began to emerge. The plan explicitly contemplated a science and technology policy for social development.

In the period from 2012 to 2015 the government introduced a new National Strategy for Science, Technology and Innovation (ENCTI), containing the main objectives, goals, and strategies to be pursued for the period 2012–2015. The ENCTI selects some priority programs involving major thematic lines to boost the Brazilian economy, among which is social development. In addition, it features five key challenges to be faced, among which are the elimination of poverty and reduction of social and regional inequalities. In the field of social development the ENCTI emphasizes three main areas: (1) popularization of STI and improvement of science education; (2) productive and social inclusion; and (3) technologies for sustainable cities.

On the issue of popularization of STI and improvement of science education, the major strategies involved the expansion and strengthening of the Science Olympiads;

the expansion and strengthening of the National Week of Science and Technology, the popularization of STI events and traveling science activities; support for interactive science museums and internalization of scientific and cultural spaces; development of methodologies and innovative teaching materials for teaching science in schools; and promotion of the presence of STI in the media: TV shows, radio, and digital content.

The theme of productive and social inclusion to ENCTI highlights the importance of actions and targeted government programs for the development and replication of social technologies with a view to technology transfer to individual entrepreneurs and micro and small enterprises and the promotion of technological extension activities for productive and social inclusion. The example given in the ENCTI document is Technological Vocational Centers (CVTs), which were designed as assisted laboratories for the support and development of local economic vocations focused on the generation of employment and income. It also cites technological extension actions for the dissemination of small-scale technologies, applicable to family farming.

Among the main strategies for action on this issue are the development of social technology dissemination programs for productive inclusion; the promotion of R&D in the field of Assistive Technology, for people with special needs; and the development of programs and activities for STI for the development of food and nutritional security.

With regard to the issue of technologies for sustainable cities, the main objective is to improve the quality of life in urban areas through the development of new methods and techniques that meet social demands, especially in the areas of education, health, housing, security, transportation, and energy. Among the examples presented in the plan are especially the solid waste program that deals with the disposal of electronic waste and the development of technologies that reduce installation costs and increase efficiency of sewage networks in urban areas in order to support the universal distribution of sanitation in the country.

The MCTI operates through its development agencies, The Studies and Projects Financing Program (FINEP) and the National Council for Scientific and Technological Development (CNPq) that have specific programs for Science, Technology and Innovation geared towards social development. These programs must be aligned with the priorities set by MCTI through ENCTI.

In the case of the CNPq there is no specific area that addresses the issue of STI for social development. At FINEP there is the Technology Area for Social Development (ATDS) whose mission is to "create technologies, processes and methodologies that may constitute proposals for new models and paradigms for dealing with social problems, reduced inequalities and promoting citizenship" (Fonseca 2010). The performance of the ATDS started before the government had explicitly established a national STI strategy for social development. The ATDS developed a comprehensive agenda for action involving topics such as health, education, assistive technology, sport, food security, local development, housing, water, sanitation, among others.

The Case of the Federal University of Rio de Janeiro

The Federal University of Rio de Janeiro (UFRJ) is the largest federal country university with approximately 54,000 students. The university is organized around 50 academic units which house 155 undergraduate courses. Research activities are part of the routine of the university with more than 100 graduate programs and combined 11,248 master's and doctoral students enrolled.

In our analysis we try to identify initiatives aimed at social development present in teaching assignments, research, and extension activities of the university. In the case of teaching assignments analyze affirmative action at UFRJ to encourage access to the university by members of disadvantaged sections of society. In the case of the research mission we analyzed two cases of polytechnic school research groups who work directly in the development of technologies for the solution of social problems.

Finally we present the UFRJ extension program focusing Technological Incubator of Popular Cooperatives, an extension project at UFRJ that has been replicated in more than 60 locations and has become a public policy platform for social development.

Student Assistance at UFRJ

The UFRJ has a body focusing specifically on assistance to the student, the General Superintendent of Student Policies—SuperEst. This body aims to "Implement activities designed to help students stay in college, especially those who fit the profile of students to be helped by the policies of the National Student Assistance Plan (PNAES)."

The activities of SuperEst involve the monitoring of the selection and application of assistive nature grants process, the joint actions for the student's health and nutrition policy and monitoring the occupation of student residences. SuperEst is also responsible for promoting activities to improve accessibility conditions and academic performance of students with physical disabilities.

The theme of social inclusion is recurrent in the performance of SuperEst, especially in its Inclusion, Accessibility and Community Affairs Divisions, specifically designed to "democratize youth permanence at federal higher education institutions and minimize the effects of social and regional inequalities permanence and completion of higher education." The actions of the Inclusion, Accessibility and Community Affairs Division (DINAAC) seek to make the Federal University of Rio de Janeiro (UFRJ) an inclusive institution and accessible to all citizens.

Technical Solidarity Center (Soltec) and the Interdisciplinary Center for Social Development (Nides)

The cases of Soltec and Nides are quite interesting since they are explicitly targeted initiatives for social development, linking education, research, and extension and that were organized around the UFRJ Polytechnic School.

The Technical Solidarity Center (Soltec) "is an interdisciplinary program of extension, research, and training, which develops networking projects with a territorial and participatory approach in the fields of Social Technology and Economic Solidarity, aimed at the construction of public policies for social equity and the environmental balance". The initiative was born in 2003 in the polytechnic school and the center of the UFRJ technology. Soltec has three areas of activities:

- Management of Social Solidarity Projects;
- Integrated and Participatory Natural Resource Management;
- Information Technology for Social Purposes.

Among the projects performed by Soltec we can highlight the research and extension activities in information technology for social purposes, the creation of a network of information and research in solid waste, development studies of recovered companies that were taken over by their staffs in cooperative arrangements, and analysis of initiatives related to economic solidarity.

A successful example of project led by Soltec is the PAPESCA—Action Research on Supply Chain Fisheries in the city of Macaé/RJ. This project, in conjunction with other initiatives, gave rise to Solidarity Fisheries Network, which seeks to contribute to the training of workers in this production chain and the development of public policies aimed at strengthening small-scale fishing and family aquaculture in the country. This project was promoted by order of the Ministry of Fisheries to support public policy formulation and aquaculture associations, based on interviews with fishermen and colonies.

Another important project in terms of Soltec's contribution in public policy evaluation, a project was carried out with *quilombos*, lands inhabited by former slaves, to identify regional vocations. This project inspired Brazil Local Notice dedicated to supporting ethnic development initiatives by CONAQ—National Confederation of Quilombo residents.

Soltec was responsible for organizing a seminar for the evaluation of the actions and policies of the National Secretariat for Economic Solidarity, between the years 2003 and 2008. This seminar had the participation and representation of different sectors of civil society that managed initiatives and/or were impacted by the project actions from economic solidarity policies. The actions of Soltec still involve projects such as the agro-ecology cooperative of the *Movimento dos Sem Terra* (The Landless Movement—MST) in the city of Nova Iguaçu, RJ, and fostering community communication (supporting editorial production, text revision, and graphic design) in the *Cidade de Deus* with the development of a local community newspaper, called "The news for those who live."

Interestingly, the activities of Soltec since 2003 in the extension field have evolved into a core transformation process in an extension program that, 10 years later, came together with the efforts to create an Interdisciplinary Center for Social Development in polytechnic school at the UFRJ center of the technology. In addition, in 2004, Soltec created the National Conference of Engineering and Social Development (ENEDS), now in its 11th year, and has visited important Brazilian universities like the University of São Paulo and Campinas University, contributing to a national articulation of the issues.

With the maturation of Soltec's performance and convergence in research and extension with other groups at UFRJ, in 2013, the Interdisciplinary Nucleus for Social Development—Nides was created, as an academic spin-off. The nucleus is composed of extension programs offered by Federal University professors, in cooperation with graduate and undergraduate students formally under the Dean of Extension at the Federal University, as Soltec—The Nucleus of Technical Solidarity (http://www.soltec.ufrj.br), Lipe—Computer Laboratory for Education (http://lipe.palas.ufrj.br), the LaFAE—The Sources of Alternative Energy Laboratory (http://www.dee.ufrj.br/lafae), and the UFRJMar Nucleus (http://www.ufrjmar.ufrj.br).

Nides was institutionalized as a supplementary service of the Technology Center that hosts the Alberto Luiz Coimbra Institute for Graduate Studies and Research in the Engineering Incubator of Technology-Based Enterprises Coppe—(IE/COPPE), the Technology Park, the Institute of Macromolecules, the School of Chemistry, and the Polytechnic School. Interestingly, the Technology Center is the main catalyst for technological activities in the state of Rio de Janeiro, home to the largest infrastructure of research and development in the country engineering. The incubator of technology-based companies and the technology park are recognized as reference activities on the national scene.

According to the Director of Communication of Nides, Prof. Dr. Celso Alvear, it represents the consolidation of a movement to create an extension service, research and teaching on technology and social development at UFRJ. The Director pointed out that the Nucleus' activities are supported by participatory methodologies, with its end purposes guided according to the following principles:

I—to provide technical support and develop social projects and solidarity with social movements, community movements, popular groups and government entities;
II—to develop new concepts and methodologies in the field of Technology and Social and Solidarity Development;
III—to contribute to the education of students developing socio-technical skills, and encourage their participation in social development projects;
IV—to focus primarily on the promotion of local and regional actions in the state of Rio de Janeiro, in addition to activities as part of a national and international network with other institutions, and;
V—influence the development of public policies from their practices and theoretical bases.

The main thematic lines worked out by Nides are: Sustainable Energy; Information Technology for Social Purposes; Shared Natural Resource Management; Education and Labor; Food Security; Solidarity Networks and Productive Chains; the Science and Culture of the sea. As the initiative is still very new, it is not possible to analyze the practical results of this new institutional arrangement.

In addition to the relevant extension activities in Soltec and Nides, we could also observe efforts of these initiatives to incorporate the social agenda in the areas of undergraduate education and postgraduate research.

At the undergraduate level, Soltec proposed the creation of a course entitled Management of Social and Solidarity Projects with a 45 h course load, to be offered to all UFRJ students, especially those students at the Polytechnic. The course will promote critical skills of the students at the university in considering Brazilian social issues, and discussing concepts such as a social and solidarity economy, cooperatives, self-management, and sustainable socioeconomic development.

At the graduate school level, professors linked to Soltec will also offer a course in Engineering in Social and Solidarity Enterprises, with a 36 h course load in the COPPE/UFRJ Masters and Ph.D. programs in Industrial Engineering. The course will promote the reflection and analysis of the opportunity to associate social development and solidarity chains in local productive clusters, identifying factors such as exclusion and integration into productive chains.

Also in relation to research, the most recent initiative of Nides was to propose that a Master's level course in Technology for Social Development with a multidisciplinary approach be established at CAPES, involving the faculty research staff from different departments and institutions. In April 2015, the course proposal was approved by CAPES and classes are scheduled to begin in March 2016.

The Extension Program at UFRJ

The prorectorate of extension concentrates extension projects and programs performed at UFRJ according to the national plan for the extension following the guidelines, and working in areas such as education, culture, sports, work, technology and production, health, environment, human rights, and communication. The extension program is organized into projects and programs, projects are activities with a beginning, a middle, and a predetermined end while the programs are ongoing. The university currently has 156 projects and 14 extension programs in progress.

Under the heading of education are 58 projects which include activities such as courses to improve the quality of basic education teachers, production of teaching materials for schools, community libraries, community pre-university, and programs for the popularization of science. Under the heading of culture are 32 projects among which are actions in the field of cinema, music, arts, and digital culture. Besides these, there is a museum and cultural memory activities related to specific topics. In the field of sports there are sports-related projects involving schools, and the internal and external community of UFRJ.

At work field there are two interesting initiatives: one is designed to include economic solidarity developments in the production chain of geo-tourism and/or cultural heritage. The other project aims to integrate design in the solidarity economy initiatives related to handicrafts and textiles. On the subject of technology and pro-

duction there are three projects related to social development. One is designed to develop the culinary industry in a number of *favelas* located near the university, another project is designed to promote the digital inclusion of *favela* residents, and a third is related to social technologies in fishing area.

In the health area there are 38 projects, most of them related to providing health care services in poor communities, for seniors and schools. Also noteworthy are programs for drug prevention and treatment of users and to promote accessibility for people with disabilities to areas of the city of Rio de Janeiro.

In the case of the environment are 13 projects including issues related to the preservation of water resources, solid waste management, and education efforts in poor schools and communities. In the field of human rights are six projects related to gender and homophobia issues, urban issues and land management in poor communities, and legal support actions. In the communications field there are ten projects related to radio, TV, newspaper, and the internet.

There are 14 extension programs held at UFRJ involving issues such as youth and adult education, social inclusion activities in the poor communities surrounding the UFRJ, a university pharmacy, actions to promote citizenship, and access to the legal/justice system. We will describe two of these extension programs in greater detail. These are programs that started as projects, matured and became programs, and then sought new spaces for institutionalization outside the extension environment.

The Technological Incubator of Popular Cooperatives

The Technological Incubator of Popular Cooperatives (ITCP) was established in 1995 as an extension program in the Alberto Luiz Coimbra Institute of Graduate Studies and Research in Engineering (COPPE), at the Federal University of Rio de Janeiro (UFRJ). This incubation program is similar to those that exist for the technology area only in the case of ITCP the creation of business organized around the cooperative's precepts is fostered. This pioneering project, developed initially as an extension of the UFRJ program, took on national proportions—becoming an official program of the federal government that has been replicated in more than 60 locations.

Extrapolating national borders, the ITCP is recognized as one of the most important UFRJ extension programs, being elected in 2005 as one of the ten most important experiences in combating poverty in Brazil, in the National Competition sponsored by the World Bank and the Getúlio Vargas Foundation of Sao Paulo.

The activities of the ITCP have the following social groups as direct beneficiaries: unemployed or underemployed workers; people who are coming out of the formal labor market and entering the informal market; users of the mental health system; and recyclable waste pickers groups.

The activities of the ITCP are designed to strengthen cooperatives already supported, create new cooperatives, and transfer these incubation methodology cooperatives to other initiatives outside the scope of UFRJ. The ITCP has helped in the creation of 45 cooperatives in several areas and is currently monitoring seven cooperatives.

Incubation methodology developed by ITCP/UFRJ involves two dimensions of supported projects, the cooperative dimension and the business dimension. This is a very specific process since the target audience is low-skilled entrepreneurs, with little or no technical training, and undercapitalized. According to the very ITCP the work "articulates the economic aspects of the business with opportunities for citizen inclusion, having a model of democratic and participatory management, more worried about the common good than profit."

Thus, the methodology developed by ITCP encourages its enterprises from two axes, economic viability and the cooperative viability. In addition, the activities developed should "seek not only to respect, but also to encourage and incorporate the knowledge of these groups using clear language and teaching practices and planning geared to that end."

Concluding Remarks

Universities are gradually incorporating a third academic mission taking a proactive role in promoting socioeconomic development from the academic missions of teaching and research. In this context emerges the concept of entrepreneurial university, focused on technology transfer and support the creation of innovative businesses. There are plenty of studies that examine the role of universities in the process of economic growth, but there is a lack of studies examining the role that universities play in social development. This is the central focus of our analysis.

In Brazil the third academic mission is already present in the universities since the 1930s, when the first universities were created in the country. However, although it has already been present for many years, the third mission underwent a diffuse institutionalization process, culminating in initiatives isolated with little interconnection with each other and with institutional and government policies.

The third academic mission with social focus, in Brazil, is manifested above all in the extension activity, which is strongly oriented towards social development. The university extension program of the Ministry of Education is the only structured national program and in operation for over a decade whose purpose is to stimulate the engagement of universities in social development actions.

According to the documents drafted by policymakers extension activities should dialogue with popular knowledge and should be performed in an inseparable way from teaching and research activities. However in practice only undergraduates students are involved; the role of research activities often stays in the background and there is no effective dialogue with popular knowledge. Much of the extension activities are welfare focused and seek only to put the student in touch with the social reality of the country, and are usually activities in health care providing service in areas that are underserved by the state.

The case of UFRJ reveals interesting nuances on the topic of social development and its appropriation at the academic third mission. Actions such as the Technical Solidarity Center (Soltec), Interdisciplinary Center for Social Development (Nides),

and the Technological Incubator of Popular Cooperatives (ITCP) have served as an inspiration and model for other universities and influenced the formulation of public policies. The Technological Incubator of Popular Cooperatives (ITCP), for instance, starts as an extension project at the university and becomes a national program that has already implemented similar incubators in over 60 universities.

Although the case of UFRJ reveals successful examples of integrating teaching, research, and extension focusing on social development, these are exceptions among the extension projects developed by the university. These success stories are the result of the efforts of individuals, not an institutional or government policy. The lack of institutionalization and the isolation of these actions entail making initiatives fragile and dependent on the individuals who created them.

Interestingly, the national extension policy is separate from the agencies that fund research activities in Brazil. Development agencies and specialized bodies in the public policies for science, technology, and innovation have not incorporated the topic of social development in a structured way. The institutionalization process of social development in STI policies was quite heterogeneous and detached from other social policies developed by the Brazilian government. Despite the theme social development appears in national science technology and innovation strategy and the ministry of science and technology has created a specific area to deal with the issue, there was little connection between the work of development agencies and the topics proposed by policy makers.

On the other side, the social inclusion policy on access to higher education has been quite successful. The government has used a strategy that combines availability of places in public and private networks for members of disadvantaged groups of society. In the public network a racial and social quota system has been created, combined with a student assistance program to prevent truancy. In the private network scholarship and loan programs were created. This strategy has increased the access of disadvantaged groups to higher education institutions.

Hopefully the presence of students from marginalized sectors of society will help to include more issues related to social development in the teaching and research agendas of the Brazilian universities in the future.

References

Arocena, R., Göransson, B., & Sutz, J. (2014). Universities and higher education in development (Chapter 34).

Barreyro, G. B. (2008). *Mapa do Ensino Superior Privado* (Vol. il, 77 pp.). Brasília: Instituto Nacional de Estudos e Pesquisas Educacionais Anísio Teixeira (Série Documental. Relatos de Pesquisa, ISSN 0140-6551; 37).

BEPA. (2011). *Empowering people, driving change: Social innovation in the EU*. Bureau of European Policy Advisers, European Commission.

Bradley, S., McMullen, J., Artz, K., & Simiyu, E. (2012). Capital is not enough: Innovation in developing economies. *Journal of Management Studies, 49*(4), 684–717.

Brundenius, C., Lundvall, B., & Sutz, J. (2009). The role of universities in innovation systems in developing countries: Developmental university system—Empirical, analytical and normative

perspectives. In B.-A. Lundvall et al. (Eds.), *Handbook of innovation systems and developing countries: Building domestic capabilities in a global setting*. Cheltenham, UK: Edward Elgar.

Clark, B. R. (1998). *Creating entrepreneurial universities. Organisational pathways of transformation*. Oxford: Pergamon IAU Press.

Durham, E. R. (2003). *O Ensino Superior no Brasil: Publico e Privado*. Documento de trabalho 3/03. Nupes/USP.

Etzkowitz, H. (2002). *MIT and the rise of entrepreneurial science*. London: Routledge.

European Commission. (2013). *Guide to social innovation*. Retrieved November, 2015, from http://ec.europa.eu/regional_policy/sources/docgener/presenta/social_innovation/social_innovation_2013.pdf.

Fonseca, R. (2010). *Política Científica e Tecnológica para o Desenvolvimento Social: uma análise do caso brasileiro*. Campinas: Unicamp (Tese de Doutorado em Política Científica e Tecnológica).

Forproex. (2015). *Política Nacional de Extensão Universitária*. Retrieved November, 2015, from http://www.renex.org.br/documentos/2012-07-13-Politica-Nacional-de-Extensao.pdf.

Fraga, L. (2012). *Extensão e Transferência de Conhecimento: As Incubadoras Tecnológicas de Cooperativas Populares*. Tese (doutorado) Universidade estadual de Campinas, Instituto de Geociências.

George, G., McGahan, A., & Prabhu, J. (2012). Innovation for inclusive growth: Towards a theoretical framework and a research agenda. *Journal of Management Studies, 49*(4), 661–683.

Gibney, E. (2013). *A different world*. Retrieved from https://www.timeshighereducation.com/features/a-differentworld/2001128.article.

Göransson, B., & Brundenius, C. (Eds.). (2011). *Universities in transition: The changing role and challenges for academic institutions*. Ottawa, Canadá: Springer.

Gunasekara, C. (2004). *The regional role of universities in technology transfer and economic development*. St Andrews, Scotland: British Academy of Management Conference.

Hall, J., Matos, S., Lorn Sheehan, L., & Silvestre, B. (2012). Entrepreneurship and innovation at the base of the pyramid: A recipe for inclusive growth or social exclusion? *Journal of Management Studies, 49*(4), 785–812.

IBGE. (2014). *Síntese de Indicadores Sociais*. Retrieved November, 2015, from http://biblioteca.ibge.gov.br/visualizacao/livros/liv66777.pdf.

INEP. (1995, 2000, 2005, 2010, 2013) "Censo da Educação Superior" available at http://portal.inep.gov.br/web/censo-da-educacao-superior at January of 2015.

INEP. (2001, 2015). *Censo da Educação Superior*. Retrieved November, 2015, from http://portal.inep.gov.br/web/censo-da-educacao-superior.

Johnson, B., & Andersen, A. (2012). *Learning, innovation and inclusive development: New perspectives on economic development strategy and development aid*. Globelics Thematic Report. Retrieved June 10, 2014, from http://www.globelics.org/wp-content/uploads/2012/11/GLOBELICS2012_1_Indhold_TRYK-copy.pdf.

Karnani, A. (2007). The mirage of marketing to the bottom of the pyramid: How the private sector can help alleviate poverty. *California Management Review, 49*, 90–111.

MEC. (2016). *SisProuni*. Retrieved March, 2016, from http://siteprouni.mec.gov.br/.

Mello, J. M. C., Maculan, A. M., & Renault, T. B. (2011). Brazilian universities and their contribution to innovation and development. In B. Göransson & C. Brundenius (Eds.), *Universities in transition: The changing role and challenges for academic institutions*. New York: IDRC/Springer.

OECD. (2013). *Innovation for inclusive growth: Conference discussion report*. Retrieved May, 2014, from http://www.oecd.org/sti/inno/knowledge-and-innovation-for-inclusive--development.htm.

PNE (2016) "Plano Nacional de Educação" Available at http://pne.mec.gov.br/ at January of 2015.

PNAD (2015) "Pesquisa Nacional de Amostras de Domicílios" available at http://www.ibge.gov.br/home/estatistica/pesquisas/pesquisa_resultados.php?id_pesquisa=40 at January of 2015.

Prahalad, C. (2007). *The fortune at the bottom of the pyramid: Eradicating poverty through profits*. Upper Saddle River, NJ: Pearson Educational/Wharton School Publishing.

Sampaio, H. (1991). *Evolucão do ensino superior brasileiro:1808–1990*. Documento de Trabalho 08/91. Nupes/USP.

Teixeira, A. (1961). A expansão do ensino superior no Brasil. *Revista brasileira de estudos pedagógicos, 36*(83), 3–4. Rio de janeiro, jul/set.

Van der Steen, M., & Enders, J. (2008). Universities in evolutionary systems of innovation. *Creativity and Innovation Management, 17*(4), 281–292.

Chapter 5
Universities and Inclusive Development in Bolivia

Carlos Aguirre-Bastos

Abstract Bolivia's first university was founded in 1624 and since then a large system composed of public and private universities was created. The autonomous public universities have been at the forefront of social change through the conceptual development and practical exercise of social innovations. Autonomy of the public system dates back to 1932 and it is now expected that within their autonomy, universities will find a new political discourse, directing the academic model to centre on facing the grand challenges present both at the global and national scales.

From 2006 when a new government was installed, the role of the traditional university has been strongly questioned as it is claimed responded to the particular interests of the dominant economic classes. As a response, indigenous universities were created, whose impact is yet to be measured. Examples are discussed of the multiple contributions that the traditional universities have made to inclusive development, in spite of the difficult context in which they operate.

Keywords Bolivia • Inclusive development • Autonomous public university • Private university • Indigenous university • Social innovation

Introduction

The university is the fundamental block on which the search for knowledge and truth is constructed. It is a live intellectual centre of the state and of society. In time the university as an institution has been progressively transformed. In this process, it has become a highly visible and important entity and moved itself to a close relation with the economic and political powers.

The conception of a university centred on education and training, research and narrowly defined extension services has been challenged for some time and it is now expected that it responds more quickly and deeply to pressing social demands, and shows that it is capable of producing opportune responses even in the presence of

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large uncertainties about the future. Such new role defines what is today understood as the universities' third mission (Göransson and Brundenius 2011; Mello et al. 2016; Arocena and Sutz 2015).

In the particular case of Bolivia, which this chapter deals with, the role of the traditional university has been strongly questioned since 2006 when a new development paradigm evolved based on the vision of the key role that indigenous local communities play in the construction of their future (Orozco Ramírez et al. 2006), thus providing the basis for an extensive normative reform, including a new Constitution. As discussed by Schilling (2014) the latter instrument, recognizing cultural differences and rights of indigenous peoples, is the most far-reaching of all constitutions in Latin America.

Underpinned by the above context, the focus of this chapter is to examine the contribution that Bolivian universities have made to *inclusive development* and to discuss its involvement in the new socio-economic setting of the country.

The chapter is structured as follows: Section "Framework of Analysis" provides an overview of the current understanding of inclusive development. It discusses some of the existing views on inclusiveness in Latin America and concludes with an overview of the Bolivian situation emphasizing the background on which the present development vision has been constructed. Particular emphasis in this overview is given to the ongoing concepts around innovation, as it is here that universities in Bolivia have made and can continue making their contributions to inclusive development.

Section "The University System in Bolivia" provides a brief overview of the Bolivian university system composed at present by three groups of universities: (a) public and special regime; (b) private; and (c) community based. This latter group and the rationale behind their creation are discussed in more detail in section "The Indigenous University System of Bolivia".

Section "Autonomy and Politics in the Public University System" revisits the concept and practice of autonomy under which the Bolivian public university system operates since the early 1930s. An understanding of autonomy, as defined in Bolivia, is important to better identify the role and contribution of the public university system to inclusive development challenges.

Section "Contribution of Universities to Inclusive Development" provides a global overview of the contributions of the universities to the understanding of social phenomena in the country and then examines concrete examples of implementation of university policy addressed to inclusion, in particular the role played by rural campuses created by the larger universities.

The chapter concludes in section "Conclusions" with a discussion on policies and practices in the Bolivian university, and intents to be a contribution to future policies that should face the inclusive development challenge and insert themselves in the complex global and local settings of today.

Framework of Analysis

Inclusive Development: An Overview

It is not the purpose of this chapter to enter into an in-depth discussion of the still evolving concept of inclusive development, but it is considered necessary to provide, from the existing literature, a usable understanding of this concept that will allow the analysis of the role and contribution of Bolivian universities to inclusion.

UNDP[1] defines inclusive development as that in which marginalized groups take part in and benefit from development, regardless of their gender, ethnicity, age, sexual orientation, disability or poverty. It seeks to address the deepening of inequality across the world that has risen despite unprecedented economic growth.

The International Policy Centre for Inclusive Growth[2] considers inclusive development both as an outcome and a process. On the one hand, it ensures that everyone can participate in the growth process, both in decision-making and in growth itself. On the other hand, it makes sure that everyone shares equitably the benefits of growth.

Cozzens and Sutz (2012) define inclusive development as encompassing actions that are both by and for currently marginalized groups. They argue that in the so-called informal sector, those employed in an informal and often illegal economy composed of mostly low-end entrepreneurial ventures and subsistence jobs, includes groups that are not necessarily marginalized, but instead merely restricted in their sphere of action to informal settings. The authors suggest that marginalized households and communities are settings for innovation and further that informal settings constitute an important grouping because the lives of marginalized groups are concentrated there.

IDRC (2011) understands inclusive development as that which reduces poverty and enables all groups of people to contribute to creating opportunities, sharing the benefits of development, and participating in decision-making. Such a definition is based on a configured understanding of the informal sector, as a "seedbed" for entrepreneurial dynamism rather than a hindrance to development.

In terms of existing indicators, the Human Development Index (HDI) that combines per capita income, as an indicator of growth (not its distribution nor income poverty) and education (measured by literacy rate) and health (measured by life expectancy), together with an inequality-adjusted HDI, is a first approximation to measure inclusive development. It is considered here that a whole new metrics is required to be developed to measure this complex phenomenon (the complexity can be seen for example in the multiplicity of approaches and experiences in social innovation as documented by Murray et al. 2010).

Along the wider concept of inclusiveness, the Millennium Development Goals (MDGs) came closer to capturing inclusive development, as the goals from the economic viewpoint bring in many more dimensions than just income. Further,

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[1] http://www.undp.org/poverty/focus_inclusive_development.shtml

[2] www.ipc.undp.org

some of its dimensions were thought of approximating the goals to sustained and inclusive development. Moreover, with the adoption of the 17 Sustainable Development Goals in September 2015, the UN system has provided itself with an important agenda to fight exclusion and measure its impacts.

On the other hand, several authors have analysed the relation growth and inclusion from a stricter economic viewpoint. Ianchovichina et al. (2009) indicate the need to better integrate the present separate analysis of poverty with economic growth under very specific country conditions that allow or limit sustained and inclusive growth. These authors also indicate that for inclusive growth to take place it is necessary to overcome the present direct income distribution that exists in many countries and rather focus on policies directed to productive employment.

It is noted by the authors that this is in line with the OECD Development Assistance Committee's policy statement on pro-poor growth. However, a difference between pro-poor and inclusive growth is that "*the pro-poor approach is mainly interested in the welfare of the poor while inclusive growth is concerned with opportunities for the majority of the labour force*, *poor and middle-class alike*" (Ianchovichina et al. 2009: 1).

The Commission on Growth and Development has made an in-depth analysis of growth and development concepts and practices. Its work documented in an extensive report (CGD 2008) has dealt with the great complexity of the basic ingredients of growth strategies, stating that "*growth strategies cannot succeed without a commitment to equality of opportunity*, *giving everyone a fair chance to enjoy the fruits of growth*" (CGD 2008: 7).

Here the Commission made an important distinction between equity and equality of opportunity. "*The former concept refers to outcomes or results*: *people differ greatly in the incomes they earn*, *the health they enjoy*, *the security they possess*, *and so on. The latter idea*, *equality of opportunity*, *refers to starting points. It turns on such things as access to nutrition*, *education*, *and job opportunities*" (CGD 2008: 61).

The Report also provides an in-depth analysis of the ingredients of growth strategies over a wide range of issues, without providing a policy recipe, as it is stated that no single recipe actually exists. However, the Report goes on in establishing general thoughts on opportunities and constraints being faced by different regions of the world in many different socio-economic contexts.

It is important to note that the Report calls to the attention of existing global trends that are beyond policymakers of a single country to face, but rather belong to a category of "collective responsibility" should they be confronted in the short and long term.

The Dynamics of Innovation and Inclusive Development

As noted by Aguirre-Bastos et al. (2015b: 3), "*the current topography of concepts and analytical frameworks around innovation*, *social inclusion and development is quite complex and diverse*". It is also suggested by these authors that one way to

facilitate the categorization of the existing differences has to do whether the focus is on the outcomes of innovation or on the social processes through which innovations come about. These two complementary approaches can thus be categorized as innovation for social inclusion (social innovation) when the focus is on the outcomes, and inclusive innovations to refer to the processes through which innovation emerges.

In the framework above it is now appropriate to deal with the concept and practice of social innovation which is growing in importance in the development agenda as it responds to several pressing issues of exclusion.

The Stanford Centre for Social Innovation[3] defines it as "*a novel solution to a social problem that is more effective, efficient, sustainable, or just than present solutions and for which the value created accrues primarily to society as a whole rather than private individuals. A social innovation can be a product, production process, or technology (much like innovation in general), but it can also be a principle, an idea, a piece of legislation, a social movement, an intervention, or some combination of them*".

The National Endowment for Science and Technology—NESTA (2008) defines social innovation as "*innovation that is explicitly for the social and public good. It is innovation inspired by the desire to meet social needs which can be neglected by traditional forms of private market provision and which have often been poorly served or unresolved by services organized by the state …*". It is stressed in this definition that to qualify for social innovation it must address directly major social challenges.

The OECD LEEDS program Forum on social innovation defines it as that which concerns "*conceptual, process or product change, organizational change, and changes in financing and can deal with new relationships with stakeholders and territories. Social innovation seek new answers to social problems by: identifying and delivering new services that improve the quality of life of individuals and communities; identifying and implementing new labour market integration processes, new competencies, new jobs, and new forms of participation, as diverse elements that each contribute to improving the position of individuals in the workforce*".

In the search of understanding social innovation for social change at the European Union level, Butzin et al. (2014) have made an extensive literature survey, with the view among others to identify better governance approaches to create framework conditions in which resource-poor people can focus directly on solving their underlying needs rather than being constantly diverted to tackle a continuing series of scarcity crises.

Murray et al. (2010: 3) on the other hand define social innovation as "*new ideas (products, services and models) that simultaneously meet social needs and create new social relationships or collaboration. In other words, they are innovations that are both good for society and enhance society's capacity to act*".

In their analysis Murray et al. consider two aspects that give social innovation its distinct character, the first coming from technology: the spread of networks, creation of global infrastructures for information and social networking tools. The second comes from culture and values: putting the people first, giving democratic voice

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[3] www.csi.gsb.stanford.edu/social-innovation

and starting with the individual and relationships rather than systems and structures. Such character, they claim, is characteristic of what today is called the "social economy".

Inclusive Development in Latin America

It is today widely acknowledged that although Latin America has achieved economic growth and poverty reduction in recent years and partially reached the MDGs, the inequality gap continues to impact the social texture of the region.

Different reports (UNDP 2013, 2014a, b) have shown that poverty and absolute poverty have in fact decreased but the same reports caution that the percentage of people in the vulnerable group has grown, signaling to the need of adopting specific measures so that this group does not fall back into poverty again.

The Economic Commission for Latin America (ECLAC) concluded in an earlier analysis[4] that the decrease in poverty has been possible by an increased economic growth which has allowed governments to provide direct public transferences to vulnerable and poor groups benefitting about 20 % of the region's population in clear conditions of vulnerability, and that the region has developed resilience in social variables as has not been seen in decades.

The same analysis indicates that income inequality was also reduced and shows positive signs in the majority of countries but at the same time shows the very slow pace in the reduction of inequality. This behavior is attributed to the high concentration of poverty in the first stages in the life of people, the high weight of family transfers towards infants and the high weight of public transferences towards adult generations, combined with low efficiency of the education systems to prevent origin inequalities.

The Economic Commission for Latin America and the Caribbean (ECLAC) in its XXXIV Period of Sessions has made a proposal (Bárcena 2012) for what is called "*Structural change for equality*: *An integrated vision of development*". It is stressed in the proposal that reaching equality and thus inclusion the region must (a) close internal and external economic and social gaps; (b) diffuse in the economic and social texture productive and technological capabilities, labour opportunities and social protection; and (c) strengthen the role of the state as guarantor of rights and leading sustainable development policies.

Ocampo (2004) argues that a paradox within Latin American economies during the 1990s was the emergence of companies capable of integrating into the global economy on the one hand and, on the other, an increase in the informal and often illegal economy composed of mostly low-entrepreneurial ventures and subsistence jobs with many important economic implications. According to Stiglitz (2002) unless countries attain a high level of social stability and build up solid institutions, nations will not be able to receive benefits from the globalization process. Sen

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[4] 3/12/2015 Conclusiones de CEPAL http://www.mercado.com.ar/notas/googleorganic/367137/noticiasdesdegoogle?id=3671372/3

(1997) argues on the other hand that there is a set of factors that intensify racial and gender inequalities and that costs arising from these factors are not reflected in market prices.

Such problems have created s*ocial exclusion*—that is, "*the denial of equal access to opportunities imposed by certain groups of society*" (Behrman et al. 2003). Hall et al. (2012) and Hall and Matos (2010) have suggested that in the case of Brazil, social exclusion led to wider problems, such as crime and corruption, and emerged as a key policy challenge in its attempt to become globally competitive. More generally, much of Latin America has been vulnerable to crises, particularly those with high levels of export dependence focused primarily on commodities, such is the case today with the prices of oil.

Although there are several existing examples that emphasize the policy relevance of inclusive development and illustrate the efforts placed by governments as well as multilateral, international, regional, non-governmental and private agents to reduce poverty, the rate of progress towards inclusive development remains slow in most of Latin America. In fact, all countries have acknowledged the importance of a sustainable society (while differing in terms of policies, industrial structures, dependence on exports and commodities).

Furthermore, although considerable thought and investment have been allocated to inclusive policies, there is much variation in how they are being implemented. Hall et al. (2014) attribute this problem to a lack of a common theoretical and empirical grounding, whereby each country operates its social inclusion programs in relative isolation from the other countries, as well as from their own national innovation policies.

Bolivia's Approach to Inclusive Development

The Social and Economic Context

In the past 10 years the Bolivian economy has grown at high rates. GNP grew at an average of 5–6 % until 2015 and it is expected that the country will be the second fastest-growing economy in Latin America in 2016. Since 2002 the economy has doubled its size. GNP grew from US$ 3500 million to US$ 5900 million (2014) (in 1990 constant US dollars at the exchange rate of 6.7 bs./US$). Bolivia increased its exports to record highs, US$ 12,900 million in 2014 up from US$ 1400 million in 2002.

As it is the case of a large number of developing economies which have experienced economic growth in the past decade or so, the main trigger has been the favourable conditions for commodities. Also in the specific case of Bolivia the investments made in the 1990s particularly in the petroleum sector together with high prices for this commodity have favourably impacted on growth in the past years.[5]

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[5] Data from the National Statistics Institute database (www.ine.gob.bo) accessed on 7 December 2015.

Table 5.1 Behaviour of the GINI Index in Bolivia

	1999	2000	2001	2002	2005	2006	2007	2008	2009	2011	2012
GINI Index	0.58	0.63	0.59	0.61	0.60	0.59	0.56	0.53	0.50	0.47	0.47
Urban	0.49	0.54	0.53	0.54	0.54	0.53	0.51	0.48	0.45	0.41	0.42
Rural	0.65	0.69	0.64	0.61	0.62	0.64	0.64	0.56	0.53	0.54	0.55

Source: National Institute of Statistics (www.ine.gob.bo/indice/EstadisticaSocial.aspx)

On the other hand, the country has seen a decrease in poverty conditions. UNDP (2014a) estimates that this decrease is of the order of 32.2 % in the period 2000–2012, including a slow improvement in the GINI Index, as shown in Table 5.1. In order to keep the former decrease sustained it has been recommended by multilateral organizations such as the World Bank, the Inter American Development Bank and the Latin American Development Bank to increase productive diversification and productivity in the rural areas and attract more national and foreign investment.[6] The low productivity affecting the national economy has already been pointed out as a grave challenge by the strategic Research Programme (PIEB 2011), a situation resulting from institutional inefficiencies and weak political development.

The UNDP study also indicates that the vulnerable population has actually increased by 16.9 %. Also, as discussed by Brundenius (2015) the country has made slow progress in reaching the MDGs. This situation keeps Bolivia in the 119 position in the Human Development Index (UNDP 2015).

The improvements in the social conditions were made possible by large money transfer mechanisms and subsidies addressed to improve elementary school attendance, decrease children's mortality rate and economically support the elderly and a large fuel subsidy. These mechanisms have increased the government's public spending representing since 2011 around 6–7 % of GNP.

A challenge to the economy that needs to be dealt with a sense of urgency is the existing high dependence on natural resources. Such dependence is not only an economic issue but also has a sociopolitical component as it has brought significant political conflict in the past several years. In this context it can be recognized as a key role of universities as diversification and productivity goals can only be reached by improving professional training, the establishment of strong technology centres and improved university-productive linkages.

Bolivia's Vision of Inclusive Development

In the 1990s following the impulse given by international and regional multilateral agencies calling for a lesser role of the state in the management of the economy, and following a liberal economic thought, Bolivia adopted a set of reforms that led to an accelerated liberalization process. Orduna (2012) has called this process "*five political reforms that promised a modern country*". In order to balance the strong

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[6] www.la-razon.com (visited on 3 March 2016).

market-oriented policies of the reforms to face the challenge of social exclusion, a fundamental law was adopted in 1994 defined as the "Law of Popular Participation".

The law aimed at social redistribution through the transfer of resources, competences and physical infrastructure of public education and health services to the municipal governments and stimulated citizen participation in the municipal democracy and social control through specific institutional instruments. The process, notes Orduna, modified the municipal architecture of the country. Complementary to this law, in 1995 the law of decentralization was adopted that regulated the structure of power at the level of departments, thus impacting as well on the municipal level.

A large set of research and studies have been produced studying the short- and long-term impacts of the two above legal norms that constituted fundamental social innovations. Both were later modified by the government that came into power in 2006. It can be highlighted that even in the relatively short period of their application Bolivia had taken a key step towards inclusive development.

In 2006 a new development paradigm that considers indigenous and peasant communities and labour organizations as the key actors of development was introduced. The change in paradigm has led to an extensive normative reform, including the adoption of a new Constitution in 2009 that defines a pluri-national state. The marginalization of large sections of the population as a growing problem was amply perceived and recognized in the public discourse for many years, but only in 2006 radical reforms permitted to actually face the challenge. On the other hand the reforms have led to a situation of augmenting the central political power. The Economist Intelligence Unit[7] classifies the political regime as a hybrid, a mixture between democratic and authoritarian.

The radical change in the development vision was long forthcoming. Bolivia's socio-economic structure that existed since independence (in 1825) was practically the same as that of the colonial period, a strong ruling class and a large fraction of society totally excluded from decision-making and from the benefits of economic growth. Molina (2006) describes quite aptly two fundamental conditions of the country from a sociological point of view.

The first condition is the *presence of the masses* which had the attribute of ethnic and cultural differences; they were Indians that the colonial system utilized, but was unable to include, a situation that extended into the republican period. The result, as expressed by Molina, was "disastrous": abused indigenous groups, exploited and misled, in whose minds a culture of inferiority, mistrust and resentment was seeded. In this context, the masses became totally against inserting themselves in a project together with those that did not share their same identity and were resentful for the past and eager to take revenge in the future, expressed as a set of anti-modern and anti-liberal ideologies.

Within this social context the dominant classes were able to rule the country for a few discontinued decades, as the indigenous and popular risings characterized the highly unstable political environment of the country throughout its history. An important period of relative political stability was achieved in 1952 when very

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[7] (www.boliviaentusmanos.com, January 20th, 2015).

important public innovations for inclusion were introduced, in particular the universal vote and the agrarian reform, which allowed the (illiterate) indigenous population take part in the democratic process and provided rightful ownership of the land. Much later in 1997 the adoption of the Popular Participation Law, as mentioned above, allowed a much more integrated process of inclusion, both political and economic.

The second condition raised by Molina was of a structural socio-economic character. Besides the presence of the masses, there was an insufficient capacity of the country to produce goods that are today abundant in the capitalist model, which has led to the difficulty of connecting the indigenous groups with more dynamic markets. In this context on the other hand there grew a middle class that together with the traditional elites obtained better well-being, comfort and connection to the world. However, a large fraction of this elite were "*weak and mediocre*, *formulating global*, *modernizing and democratic formulas*, *in which only theoretically the indigenous groups would be included*, *but did not count on resources nor the conditions (material and intellectual) to create economic*, *social and institutional conditions that would make those dreams possible*"(Molina 2006:19).

Other important changes can be recognized in the adoption of the new development paradigm. The National Human Development report (2011) points out that the territorial reorganization of ethnic identities constitutes, together with educational and occupational mobility, some of the more noticeable of such changes.

The National Development Plan 2006–2011 (MPD 2006) shows the great emphasis on the new social vision. It is important to note that the Plan considers research and innovation as tools for changing the primary export productive pattern as well as tools for social improvement.

The Plan emphasizes that the success of the national innovation system will result from the combination of modern scientific advantages with ancestral, local and popular "knowledges"[8] and wisdom (Carvajal and Albarracín 2007; Carvajal 2009). The restoration of traditional knowledge is considered not simply an anthropologic task, rather a way to discover techniques of production and management of the land that have proved to work efficiently in the past. Along this concept a new development vision based on dialogues between actors in the innovation system that include local and traditional knowledge is strongly emphasized. This vision is deemed as a key step towards social inclusion of the 37 indigenous nations existing in the country. In the more recent years Bolivia has started to lead a worldwide movement to advance the concept of ancestral knowledge into development strategies.

In January 2013, government adopted a strongly ideological based "Patriotic Agenda"[9] with the view of reaching a set of specific goals by the year 2025, the country's 200th anniversary of independence. The Agenda is viewed as a project that aims to consolidate the new nation and *"marks the structural rupture of the old*

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[8] The term is used in plural following the Plan, signifying the existence of many streams of knowledge, each coming from the different existing cultural identities in the country.

[9] Based on the so called Manifiesto de la Isla del Sol of December 2012.

colonial, *republican*, *neoliberal state with the new Plurinational state of the communitary socialism*" (Rocha 2014: 4).

The Agenda calls fundamentally for eradicating poverty and poverty-related conditions, and defines a set of 13 pillars containing several objectives, many of which open the way for the generation of social innovations, in particular:

- Ownership and development of technology, based on the convergence of knowledge in dialogue between modern science and local ancestral and community practices and knowledges for a given set of products in the framework of respect to "Mother Earth"
- To become a centre for technology-based innovation in nutritive and medicinal foods and with innovation centres in areas of production of high-value native agricultural goods
- Develop and strengthen knowledge and technologies for organic and conventional production of high-yield products on the basis of the fusion of local, ancestral and modern knowledge guaranteeing an abundant production of food and medicines.
- Recovery, development and strengthening of medical ancestral knowledge and practices in convergence with modern knowledge and practices and training and accreditation of professionals and highly specialized medical centres as well as the basis for the development of a natural, ecological and spiritual pharmaceutical industry
- Increase and substantially improve the country's technology high-level professionals, technicians, academicians, scientists and experts in different areas of knowledge, trained with support of the state, contributing with knowledge to the development and of "living well" (Box 5.1) in harmony with "Mother Earth"

In the more specific case of Pillar 3 dedicated to health and education, the Agenda states that 100 % of all Bolivians will have a *free* access to all educational services including higher education. Pillar 4 for achieving sovereign science and technology with own identity identifies the Committee of the Bolivian University (CEUB) as one of the competent instances to achieve the stated goals. It is interesting to note that Pillar 4 is the only one that calls on universities to contribute to the Agenda as key actors.

Box 5.1: "Living Well"

Living well is defined as: "*the civilization and cultural horizon alternative to capitalism and modernism that is borne out of the cosmo-visions of the originary indigenous peasant nations and peoples and of the intercultural and afro Bolivian communities, and is conceived in the context of inter-culturality*", …, "*it means living in complementarities, harmony and equilibrium with Mother Earth and societies, in equity and solidarity and eliminating inequities and dominance mechanisms. It is Living Well amongst us, Living Well with that around us, and Living Well with one self*" (Law on Mother Earth, 15-10-2012).

Rocha (2014) considers that the assumption of Bolivia to the presidency of the Group of 77 + China at the Summit held in Santa Cruz, Bolivia, in June 2014 allows the country to propose and "export" policies such as those contained in the Presidential Agenda, in particular the vision of well-being in harmony with Mother Earth in order to live well.

The Patriotic Agenda is in practice a development plan until 2025. In order to implement the activities foreseen in the Patriotic Agenda, the Ministry of Planning defined a normative instrument, the "Medium and Long Term Guidelines towards the Patriotic Agenda" (MPD 2014) that called all organizations in the public sector at the national, sector, departmental, provincial, municipal, indigenous territories' levels and the Bolivian University System to apply them.

Although the Patriotic Agenda is government-state centred, there have been strong calls to the participation of the private sector to invest in productive activities as part of their social corporate responsibilities.

Corporate social responsibility (CSR) is not new to Bolivian enterprises. Responding to growing demands of civil society for greater involvement in national development, in 2004, the Bolivian Foundation for Social Responsibility (COBORSE 2008) was established. In its early efforts the Foundation advanced in the diffusion of the concept and practice of CSR, through the creation of spaces for dialogue and the execution of pilot projects. In 2006/2007, the Foundation undertook a survey to 50 CEOs in the main three cities of the country to assess the degree of knowledge, application and valuing of CSR in the country.

Some of the main results of the survey of relevance to this contribution show that CSR has become a trend of importance throughout the Bolivian business fabric. A gradual increase is observed in the interest and compromise of enterprises to respond to growing social demands. It is also found that the larger number of CRS activities are addressed to the immediate surroundings of enterprises and do not promote great changes in society. Often CSR is confused with philanthropy. Enterprises do understand however that their support cannot become part of "cash transfer" mechanisms, creating dependence. Some experiences have been registered the participation of representatives of the local communities in the enterprise decisions.

It is interesting to note here that neither the survey questions nor the comments from respondents assigned any specific role to universities in the development and practice of CSR. There is mention of the human resource base as such but again without identifying universities explicitly.

The University System in Bolivia

The university system of Bolivia has its origins in 1624 when the Major, Royal and Pontifical University of Saint Francis Xavier (UMSFX) was founded in today's city of Sucre, the official capital city of the country. This university is today the third oldest operating institution in Latin America, after the Universidad Nacional de San Marcos (National University of San Marcos) in Lima, Peru (founded in 1551), and the Universidad Nacional de Cordoba (National University of Cordoba) in Cordoba,

Argentina (founded in 1621). It is well known that students at UMSFX were among the first to raise the voice of independence in the Americas.

During the initial years of the new Republic (created on August 6th, 1825), two more universities were added to the system, the Universidad Mayor de San Andres (Major University of Saint Andrews, UMSA) in La Paz, established in 1830, and the Universidad Mayor de San Simon (Major University of Saint Simon, UMSS) in Cochabamba, established in 1832. Three more universities were added in the late nineteenth century and others later in the 1900s and 2000s.

It is notable that by the impulse of the Mining Trade Union claiming to provide this economic sector with opportunity of access to higher education, the National University "Siglo XX" was created in 1985 in the mining district of Potosi, with a tri-partite governance scheme made up of staff, students and the Union. A similar situation arose in the city of El Alto, adjacent to the city of La Paz, where the pressure of social movements helped to establish the University of El Alto in 2000.

Today the university system of Bolivia, as recognized in the new Constitution of 2009, is comprised by three groups of institutions:

(a) The *Bolivian University System* (SUB), which is the official designation under which 11 public universities operate, together with four "special regime" universities: the Catholic University, the Military University (former Military School of Engineering), the Police University and the Andean University for postgraduate education. The latter four are funded by resources not provided by the national budget. The system has an executive secretariat, the Committee for the Bolivian University (CEUB).
(b) The *Bolivian private university system* comprised by 42 universities financed by their own resources.
(c) The *Indigenous university system*, created by the present government under the supervision of the Ministry of Education and tuition of community boards. These will be discussed in more detail in section "The Indigenous University System of Bolivia".

Since 2000 the student population in the public universities grew from 213,291 to 366,033 in 2011,[10] with a staff of 13,060. In the same period the student population in the private universities grew from 44,357 to 103,863. A tendency of staff upgrading their academic level is also observed; between 2005 and 2007, 30 % of academic staff had obtained a postgraduate degree, a number which had increased to around 60 % by 2014.[11]

Expenditure of the public university system represents around 2 % of the GNP. Table 5.2 shows the main financial resources made available to the public university system. An important point to be made here is that support of the system is contingent on tax collection and the indirect tax on hydrocarbons. In 2012 public universities received an additional US$31 million because of higher tax collection

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[10] National Statistics Institute data base (www.ine.gob.bo).

[11] Estimate by the author from various data sources.

Table 5.2 Evolution of financial resources to the public university system

Year	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Million US$	171.9	228	252.4	296	290	314.6	385.4	444.6	410.14	458.20

Source: Ministry of Economy and Finance, 2012 (comunicacion@economiayfinanzas.gob.bo) for 2013 and 2014 presentation of the National Budget by the Ministry of Finance

Table 5.3 Evaluation of the 2007–2010 university S&T strategic development plan

Objectives	Mean value[a]
Make the contribution of the university tangible to the social and economic sustainable development of regions and the country, conduct research and innovation activities that contribute to improve the quality of life of peoples, increase productivity and competitiveness of the economy, generate employment and improve the quality of higher education	2.57
Make the productive, prefecture and municipalities and other sector's needs compatible with the interests and academic values of the Bolivian University, so that their resources and infrastructure are added and complemented to attain sustained scientific and technological development	3.06
Develop a normative framework and an institutional operational environment to increase the production of science, technology and innovation, coherent with the demands of productive, prefectures, municipality sectors and other development organizations	2.34
Mean valuation of the strategy	2.66

Source: CEUB (2012)
[a]*Note*: Scale: 1 objectives not accomplished; 5 excellent accomplishment

and higher international oil prices. This contribution was reduced to almost half in 2015 due to the decrease in gas exports.

Public universities are by large the main actors of research in Bolivia in all the sciences and the humanities; majority of all research centres belong to the university system of which 58 % are concentrated in the three main cities of the country (La Paz, Santa Cruz and Cochabamba).[12]

The Committee of the Bolivian University has evaluated the science and technology University Development Strategy 2007–2010 (CEUB 2012). Table 5.3 reproduces the main results; it can be noted that many objectives are those needed to produce social innovations. The result of the evaluation is interpreted as showing the difficulties in managing research inside the university environment. On the basis of the results of the evaluation a SWOT analysis was produced.

Some of the main points in the SWOT analysis illustrate the conditions under which research takes place in the public university system.

The universities in the public university system, that includes the universities under special regime, have the largest and most qualified group of researchers in the

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[12] A more detailed description of the research system in universities can be found in Aguirre-Bastos et al. (2015a, b).

country. There are also a growing number of human resources trained in the management and transfer of research outputs.[13] There are also a growing number of university authorities engaged in the improvement of the environment for research.

Researchers run however against the existing bureaucratic structures of the university and have insufficient financial resources to conduct their activities. Also, an aging and deficient infrastructure can be recognized, and further, the existing human resources and material infrastructure are concentrated to three cities. There is an observed lack of demand from productive sectors and there is a weak linkage with socio-economic sectors.

As will be discussed in section "Conclusions" there are many opportunities that the university system can take to improve the present situation of weakness; one case is the strong ties that several research groups have created with their international counterparts, thus greatly improving the quality of their outputs.

On the basis of the SWOT analysis CEUB defined a strategy towards 2015 that included a set of objectives for research and innovation, as follows:

- To promote the contribution of the university to the social and economic development of the country and regions, through research and innovation
- To attain a sustained scientific and technological development making compatible the needs of productive sectors, departmental governments, municipalities and other institutions, with the academic interests and values of the Bolivian University, so that resources and infrastructure in their fields of action are complemented and added
- To increase the production of STI in the university through a convenient normative framework and institutional environment

Many of these objectives have not been achieved because no financial resources were allocated in the strategy and as discussed elsewhere in this chapter public universities have very little amounts of resources dedicated to research.

The Indigenous University System of Bolivia

The establishment of three "Universidades Indígenas Bolivianas Comunitarias Interculturales Productivas" (Bolivian Indigenous Communitary Inter-Cultural Productive Universities)/(UNIBOL),[14] by Decree 29664 of August 2, 2008, addressing the facilitation of access of indigenous groups to higher education, marks a radical departure from the traditional method of creation and operation of such higher education institutions.

In 2009 the three universities started operation, one in each main region of the country, the highlands, the valleys and the tropics, each at the same time responding to the main ethnic—language diversity: Aymara, Quechua and Guarani, respectively.

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[13] For an ample discussion on this issue see Aguirre-Bastos et al. (2015a, b).

[14] http://www.lexivox.org/norms/BO-DS-29664.xhtml

The justification for the creation of the three universities is amply stated in the Decree that established them, following the already discussed social vision of government, and also strongly ideologically oriented. Some of the considerations that are called for in the legal norm state:

- That the perseverance of the colonial ideology has signified neglecting the indigenous world both in its cultural identity and in its access to full citizenship
- That since the pre-colonial period the different indigenous identities have constructed, defended and preserved complex scientific knowledge, knowledges and technologies, guided by community criteria and under the principle of complementarity, cooperative work, individual and collective responsibility and equilibrium with nature
- That education and particularly university education are dominated by a monocultural principle that hides and disqualifies the knowledge and comprehension of reality that has been produced, through centuries, by the indigenous world
- That the incorporation of young indigenous people in the public and private universities has signified processes of alienation and loss of cultural identity, prioritizing individual interests and a predominantly commercial vision of knowledge
- That Bolivia is a pluri-national, multi-cultural and pluri-language country, and its diversity must be respected and strengthened, as it is in this diversity that resides its fundamental strength to project it in the Latin America and world scenarios

Ideology is strongly engrained in the creation of these universities. During the inauguration of the university in the Quechua-speaking region of Bolivia in 2008, President Morales declared that "*the universities that we have today are away from their people*". Minister Coca went much further stating the "*the indigenous universities pave the way to the end of the public university system that responds to neoliberal criteria*"; these new universities he claimed "*will replace the discriminatory, individualistic university system*"[15] and should assume the mission to recuperate the culture, the language and the ancestral knowledge, accumulated for centuries in the indigenous peoples and their organizational forms. For the Ministry of Education it is an attempt by the country to de-colonize, ideologically and culturally, the future professionals.

It is also strongly engrained in government the thought that these new institutions cast a shadow on the efficiency with which their public counterparts manage their resources, with results that are far from world excellence standards.

Escalera (2009) has raised a voice of alert regarding the operation of these universities. A first critique regards the strong participation of community boards in the universities' governance system. In fact these boards establish the planning criteria and evaluate its compliance, according to the social demands and productive characteristics of the region. It seems difficult to make compatible academic criteria of quality with such an approach.

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[15] www.docity.com/worldpress/noticias/2012/03bolivia-universidades-indigenas-campesinas/03-12-2012

A second problem that can be brought forward is related to language. The universities are expected to be trilingual (one native language plus Spanish and English), and thus it is expected that students will be prolific in all three to succeed in their education and benefit from it. It is not easy to see students coming from marginalized or poor rural sector to be able to handle three languages besides their career contents. Further, there is no advanced university-level literature in any technical field written in native language at present.

It is yet to be seen whether or not these universities will be able to perform well both academically and socially, and further create the needed social innovations that are required for inclusive development.

Autonomy and Politics in the Public University System

The Bolivian public university system operates under the concept of autonomy introduced in the Constitution of the late 1930s and again consecrated in the new Constitution adopted in 2009. This concept has its origins in the so-called Cordoba Manifesto in 1918 that considered universities as being under the aegis of existing "dictatorial" political systems and of the "dominant economic classes" and as such the mirror of a decadent society.

Since its inception, the concept of autonomy had a strong political orientation. After 1918 several student movements, such as that of Mexico and Chile in 1821, Cuba 1923 Colombia 1924 and Peru 1926, called for the participation of students in the university governance system, freer access, reform of the teaching system and in general the establishment of a true university democracy. In 1925 the students of La Plata in Argentina recognized that the educational problem is only one of several phases of the social problem and that the culture of each society is the ideological expressions of the interests of the dominant classes (Serrudo Ormachea 2006).

In Bolivia already by 1902 different voices were raised by both the intellectual elites and students calling for reform in the university system and autonomy in higher education. By the late 1920s these voices had become a fully fledged movement striving to break with the liberal ideology prevailing at the time by combining different new ideological trends, Marxism, Trotskyism and emerging nationalism. The movement also endeavoured to empower the university as an autonomous power of the state.

The influence of the Cordoba Manifesto and the movement that emerged from it, together with the effect of the Mexican and Bolshevik revolutions, and a very delicate economic situation at the time, strongly influenced the intellectual circles of Bolivia that were part of the university environment. It allowed a radical trend to be born, where the Marxist nationalists and indigenous current of thought grouped themselves around an anti-imperialist front (Dunkerly 1987).

The anti-establishment discourse of the labour class, also being raised at the time, influenced the student movement that finally postulated that universities should open their doors to all that wish to improve and study, popularizing culture,

extension and positive return to those that maintain the institutions, a university that should not stay out of the national and international problems, constitute itself in the defence of liberties, stop nepotism and in permanent alert campaign to the dangers of "yanqui imperialism".

The above manifestations of the new thinking were more formally reproduced in what is today known as the "Programme of Principles of the Bolivian University Federation of 1928". The Programme strongly influenced the political environment between 1932 and 1935 and was the trigger of the formation of several political parties in the early 1940s which called for a progressive socialization of private wealth through a set of reforms that included the nationalization of the mining industry (that occurred in 1953), the nationalization of petroleum (in the late 1930s), the agrarian reform (that took place in 1952) and other public innovations of importance (Arze Cuadros 2002).

The student and labour movements of the 1920s led government to pose in 1931 nine proposals for the amendment of the Constitution, one of which was the recognition of the university autonomy, amply approved by the qualified voters (about 1 % of the total population of the country[16]). Later in the decade the new Constitution consecrated the principle of autonomy.

Since the 1930s, public universities have referred to autonomy from different perspectives, in defence of university democracy, which in the 1950s introduced the concept of co-parity (50 % students–50 % academic staff) in the decisional system of the institutions; it has also served to protect the university from outside political intervention, except in times of dictatorships, but even then voicing its own opinions. The concept of autonomy was born in the vision of access of students of all walks of society, and access has been a major driving force for policy definitions in the public university system. However, the rhetoric of the university responding to social demands has only become reality in few instances.

CEUB defines autonomy (CEUB 2011: 15) as "*the 'raison d'être' of the institutional life of the universities and of its social struggle*, *and thus is the intellectual forefront and actor together with the social and indigenous movements*, *workers and peasants*, *supporting social economic theory and science for social progress and popular advances*".

As noted by Rodriguez and Weise (2006) in their extensive and in-depth study of the Bolivian university system, the characteristic profile of the university functions in Bolivia has been mobility and social integration and a political function, not for consolidating the structures on the nation-state, but in the way of channelling social demands and political organization against the establishment.

The authors also claim that the latter characteristic changes in the 1990s with the need of a new conscience of the role of the universities and the emergence of new social demands in a new context signed by globalization, internationalization and modification of the world order. At the same time mass access to universities occurs and the private system grows immensely, with public universities with weak poli-

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[16] Only in the early 1950 was the "universal vote" introduced allowing all Bolivians above 21 years of age to vote. Certainly the "universal vote" was an important first step to fight social exclusion in Bolivia and is an outstanding example of a "public innovation" for inclusive development.

cies and with the state unable to act in the higher education sphere. The discourse of quality and efficiency substitutes in the public system the "revolutionary" proposals of the 1970s, although they do not alter the cultural routine of the institutions.

Together with the changes that took place in the social context in the early 2000s that ended with the democratic election of a new populist government in 2006, the public universities debated the need to change the neo-liberal model and produce other reforms, but as Rodriguez and Weise also note without a capacity of articulating its discourse or proposing new paths to change. The private universities on the other hand had no role in the development debate, except that of maintaining their link with the enterprise and commercial sectors.

The difficulty of articulating a new discourse is evident in the CEUB Academic Model (2011) that still uses the old approaches of calling on the autonomy and the power it confers to improve quality of outputs and contribute to society, without specifying what these outputs actually are and how they will be obtained.

Carvajal (2008) makes a severe criticism of the public university in front of the existing social challenges of Bolivia. His main points are that the Bolivian university system does not actually exist and that universities have scarce response capacities as they lack mechanisms to detect, identify and characterize problems. In such a context, public universities are out of context; they work in different dimensions and at different rhythms; they do not become involved with national, regional or global changes and are not inserted in the social texture; consequently they do not plan their activities based on social demands.

Carvajal points out three key weaknesses, the first the absence of an intercultural vision, which does not link with the existing emphasis of a pluri-national state. Interculturality means a systemic view and complex thinking, and assumes different routes towards obtaining knowledge, and it has a new bio-ethic overview in the understanding of nature and society. Universities lack such elements. They study, preserve, develop, transmit and apply the occidental culture, in the framework of a colonial mentality. The university should approach the study, preservation, validation, development and application of knowledge stemming from the native cultures.

A second weakness is the lack of foresight; plans are produced looking into the past and have yet to contribute to something. The existing strategic planning processes do not contribute to adjust to present situations, scenarios and circumstances and does not foresee them. Happenings are not foreseen: in fact these pass over the university.

The third weakness is research; universities are incapable of providing guidelines to its research centres. These produce outputs but there are no research-based technology developments or innovations. When research outputs exist they are often put aside, but do not produce solutions or processes or products. In general it is considered that universities are inefficient and that they have not been able to produce any changes, neither within nor outside in the social, political or economic spheres.

The latter view is deemed here too politically oriented and such views have created in government an anti-public university, a feeling that is becoming difficult to overcome. At the same time, even though several universities in Bolivia do claim, a few justly, that they are addressing social challenges, there are only limited examples that can be found of effective contribution to inclusive growth and development as discussed in the next section of this contribution.

Contribution of Universities to Inclusive Development

In Bolivia an immense number of studies and research in the social sciences have been undertaken in the past few decades by a series of government, university and other public and private organizations that deal with different elements of inclusive growth and development. This effort has led to strategic research as a valuable element in the definition of development plans.

Sandoval (2014) has pointed out that in the past 30 years or so, diverse disciplines of the social sciences have produced conceptual, thematic and methodological contributions that have allowed a better analysis of the realities of the country, inspired by a sustained debate on institutional structures that were badly formed, excluding discriminatory and elitist, thus contributing to a more plural, equalitarian and democratic society.

The public university system and notably the University of La Paz (Universidad Mayor de San Andres), the University of Cochabamba (Universidad Mayor de San Simon) and the Catholic University have an important share in this effort in spite of existing limitations. Sandoval highlights in general the role of the public university system that has assumed a leading role in research that is well articulated to the country's challenges.

One of the key programmes at the Catholic University devoted to economic growth but strongly dealing with inclusion problems has been the Master programme in business and competitiveness initiated already in 1984 in partnership with the Kenney School of Government in Harvard University. The main objective is stated as: "to be and educate agents of change that search for knowledge to construct a more prosperous and equitable society". There has been more than 1100 graduates of the programme that is centred on four important concepts: knowledge frontier, application of global concepts to local cases, technology and applied education. Other key contributions in the university have come from the extensive research programme of the Institute for Social and Economic research.

In the particular case of the University of La Paz (UMSA) the postgraduate programme CIDES created in 1984 has made one of the largest contributions around development issues, with a strong emphasis on inclusion under four work areas: rural development, economic development, social development and philosophy and political sciences.

CIDES has granted between 2007 and 2014 15 PhD titles directly related to inclusive development issues and between 1987 and 2014, 258 MS degrees, a large percentage of which addressed to inclusion.

Among the many programmes of CIDES, that of Communitary and Solidarity Economy is one of the most important dealing with inclusive development. The main topic of discussion in the programme has been whether the government's call to a new economy of "living well" is actually an alternative to a capitalist economy or at least a counterbalance. The experience accumulated in the programme that included workshops and international seminars has shown the need to deepen the understanding of communitary and solidarity economy, which has provided the ground to an ongoing project initiated in 2011/2012 with support of the Basque Cooperation Agency and movements on solidarity and fair trade in the Basque country, Peru and

Ecuador. A specific impact of the programme has been the establishment of productive and entrepreneurship movements in the rural areas where it has worked.

Many reasons can be brought forward to explain the difficulties of public universities to face social demands more successfully. From the research perspective, even though there are some limited financial resources available from private or public funding, the critical mass in university institutes and faculty is still small and channels of diffusion are weak. Further, from the point of view of applied sciences and technology, universities have difficulties to actually transfer research outputs to the marginalized settings and there exist other limitations due to the lack of appropriate institutional design to effectively impact on social exclusion. Moreover, research in the social sciences is not considered today as a priority in the National Plan for Science and Technology adopted in 2013 (VMCT 2013).

In spite of the limitations, public universities have made efforts to reach marginalized and poor segments of society through the creation of rural units and the establishments of free medical and legal services. These efforts however are yet to render greater impact, even more so today with the creation of the community-based universities which are drawing valuable resources that could be transferred to the traditional university system.

In this context it is recognized that the creation of rural units by the university system has already been taking place for several years. Such units were established to facilitate access of students of underdeveloped, poor or marginalized areas. Also, several units were created alongside university and non-university research stations to facilitate training and extension services. Many of these units have been able to fulfil their roles, albeit with difficulties.

This contribution will not provide a literature review of the rich body of existing knowledge nor of research findings on inclusive development, much of which contain valuable policy informing discussions and recommendations. It will rather concentrate on two very concrete efforts made in two successful cases for inclusive innovation and innovation for inclusion, as discussed in section "Framework of Analysis". The first case is the existence of the Rural Academic Unit of the Bolivian Catholic University and the second the project CAPTURED (Capacity and Theory Building for Universities and Research Centres in Endogenous Development) conducted by the research programme AGRUCO (Agro-ecology in Cochabamba) of the public Universidad de San Simon in Cochabamba.

Unidad Académica Campesina de Carmen Pampa (Carmen Pampa Peasant Academic Unit)

The peasants Academic Units (UAC) of the Catholic University were created in 1987 to facilitate the access of the young belonging to the rural areas of the highlands of Bolivia. At the time four such units were created. The main areas of education and training concentrated around agricultural sciences, health (strongly centred on nursing) and handicrafts, with the mission of strengthening the regional and national cultural identities, from a community perspective that included a productive vision,

and of recovering and systematization of ancestral knowledges, for food security, agro-ecological production, participation of women and integral development.

Later, the Carmen Pampa Unit was added to the group. The Unit located in Coroico, a mountain village about 120 km northeast of La Paz, is a college founded in 1993.[17]

With a vision of "a more prosperous, equitable, and healthy life for all Bolivians", the primary mission of the college provides practical-needs-based higher education to students who will return to their rural communities to promote social and economic change. The college had the imprimatur of the Catholic University of Bolivia in its founding and in 2010 it was recognized as one of its regional campus.

This vision shows how this particular university has valued the challenge of the growing indigenous population and their demands, with a specific action. Many other universities in Bolivia are now, as already mentioned, elsewhere conducting research and studies on this particular problematic.

The college offers degrees in five major areas (agronomy, nursing, education, veterinary science and ecotourism). One requirement for graduation is the execution of a research activity and preparation of theses, and all students are required to participate in science fair competitions.

The college on the other hand produces coffee, meat, vegetables and wood furniture, whose proceeds are used to subsidize it. Students are also required to participate in social service outreach programmes in rural communities. Extension projects include public health visits, crop research, animal vaccination and educational workshops. The college provides various ways for young people to gain leadership skills and experiences that incorporate indigenous culture.

In its more than 20 years, the impact of the college has been profound; as of July, 2013, 431 men and women have graduated (52 % male and 48 % female); 95 % of the graduates were employed during 2012; 91 % work in jobs that support rural areas; 89 % are employed in the same field as their area of study; a 300 % increase is observed in income reported between graduates and their parents' generation.

In 2011 the Education and Health Committee of the Legislative Assembly of Bolivia named the college "Meritorious Institution of the State" for providing access to higher education and contributing to successful development. The US Agency for International Development named the college in 2007 a leader in higher education for Bolivia's mountainous Yungas region. In 2003, the United Nations Subcommittee for the Eradication of Poverty named the college as one of the world's top models for eradicating poverty.

Project "CAPTURED"

AGRUCO is a university centre dedicated to participative research, postgraduate education and social interaction with indigenous and peasant communities and municipal bodies that belong to the Faculty of Agricultural Sciences of the Universidad Mayor de San Simon (UMSS) of Cochabamba. It was founded in 1985

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[17] www.carmenpampafund.org

with the support of the Swiss cooperation. In later years it has received support of the Netherlands cooperation.

Its mission is to contribute to an endogenous sustainable development stemming from agro-ecology, the rescue of wisdom of indigenous and peasant peoples and an intercultural and inter-scientific dialogue. Its main objective is to contribute to "living well" through academic education, participative research, sustainable endogenous development considering the dialogue between knowledges of the modern occidental science, the local knowledges and wisdoms of indigenous peoples and the interrelation between the spiritual, social and material life that can impact on the present public policies and the reforms of higher education.

Between 2008 and 2012 an international programme "Capacity and Theory Building for Universities and Research Centres in Endogenous Development" (CAPTURED) was executed in Bolivia by AGRUCO together with partners in Ghana and India. The main vision behind the execution of the project is that research in developing countries has been mostly based on mainstream Western sciences and technology as these would be universally applicable to any setting, a vision that has led many projects to fail.

Under such a context, the project recognized and applied the existing local visions, methodologies, values and knowledge, and in general revitalized indigenous knowledge systems under the concept of a "dialogue between knowledges".

CAPTURED was tasked to test the design of the new approach under a call for a university reorientation in its strategies. The Evaluation of the Programme (Orellana and Brouwers 2012) concluded that AGRUCO is well positioned in the Bolivian sociopolitical context, has contributed to a mayor institutional impact, has developed a set of innovative education programs at different levels and has also contributed to "inclusive development"[18] efforts.

Conclusions

Bolivian public universities have since their early days been at the forefront of social change through the conceptual development and practical exercise of social innovations. Even in periods of a state led by liberal thought or by dictatorships, these universities continued to raise their voices of protest, and at times shared political power. The concept and practice of autonomy was a key element to support the university's struggles and movements. The Constitution of 2009 ratified the principle of autonomy providing the most ample freedom for public universities to conduct their activities, elect their authorities and in general operate free from state control.

But autonomy was granted in the 1930s and ratified in all constitutional reforms until 2009, so a continuous call to autonomy as the "raison d'être" of public universities, as is the case of the established Academic Model of CEUB in 2011, is no

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[18] Quotation marks added by this author.

longer necessary. Autonomy will remain; there might be questioning from time to time, but autonomy in the Bolivian university is there to stay.

What is now needed is that the academic model centres on facing the grand challenges that are present both at the global and national level. In the latter case it is necessary that universities enter in deeper and more evidence-based dialogue with government.

The recently created indigenous universities are not the instruments for dialogue. These universities are of course only developing, but will soon end up following the path of existing universities but as different from them with much lower quality, which is already a problem in the traditional system as recognized by the universities themselves. These universities will soon start asking for full autonomy and more financing drawing valuable resources from the already impoverished budgets of existing public universities.

One example of this situation is that even though the indigenous universities have yet to be strongly engrained at the undergraduate level, they are already offering master-level courses with inadequate staff and with very little ongoing research activities.

One key role that the present university system can play to contribute to inclusive development and social innovations is to contribute to the empowerment of social movements, indigenous communities and syndicates by responding to their demands through research and high-quality education. The latter means becoming creative with ideas and developing the capacity to actually innovate in the much sought social economy of the country.

In considering the contribution that universities can make to sustained and inclusive development, a demand failure should be borne in mind. It is quite evident that there exists a demand from civil society, but it is not formulated adequately nor sufficiently characterized. The state in particular does not formulate, nor requests, nor proposes nor puts up problems for the universities to resolve.

The social economy is a new paradigm that can only flourish when institutions are open to the world, but based strongly on strengths created by research, education and extension. Unless there is such opening, innovation, whether technology based or social, will never happen.

The experience of the College of Carmen Pampa provides an important example of social innovation that can be followed by the university system. It is important to contrast this experience with the proposed objectives of the indigenous university system. It shows that an opening to the world is the key element for configuring the new social economy. Encouraging broad-based and inclusive growth does *not* imply a return to government-sponsored policies, but instead puts the emphasis on policies that remove constraints to growth and create a different level of playing field.

The successful experience of AGRUCO also points out to the need of specifically considering inclusive development as part of the university policy, and moreover the importance of opening to the world. It is only by contrasting knowledge, ancestral or modern, that development goals can be reached. This contrast needs to be built by research and not by ideology as is the case of the indigenous universities in Bolivia now.

References

Aguirre-Bastos, C., Aliaga Lordeman, J., Garron Vedia, I., & Rubin de Celis Cedro, R. (2015a). Closing the Loop in Bolivia. In B. Göransson, C. Brundenius, & C. Aguirre-Bastos (Eds.), *National innovation systems in developing countries: Making research and innovation matter*. Edgar Elgar, in press.

Aguirre-Bastos, C., Bortagaray, I., & Weber, K. M. (2015b, October). *Innovation policies for inclusive development: The role of future oriented analysis*. Paper presented to the XIII International GLOBELICS Conference, La Habana, Cuba.

Arocena, R., & Sutz, J. (2015). *La universidad en las políticas de conocimiento para el desarrollo inclusivo* (The university in the knowledge policies for inclusive development). Cuestiones de Sociología, no. 12. Recuperado de http://www.cuestionessociollogia.fahce.inlp.edu.ar/article/view/CSn12a02.

Arze Cuadros, E. (2002, Diciembre). *Entre el Programa del MNR y la revolución Nacional: Del movimiento de reforma universitaria al ocaso del modelo neoliberal (1928–2002)* (Between the MNR Programme and the national revolution: From the movement of universty reform to the dawn of the neoliberal model). La Paz: Plural Editores.

Bárcena, A. (2012). *Cambio Estructural para la igualdad: Una visión integrada del desarrollo* (Structural change fo equity: An integrated visión of development). Presentación de la Comisión Económica para América Latina en su XXXIV Periodo de sesiones, San Salvador 27 al 31 de Agosto.

Behrman, J., Gaviria, A., & Szekely, M. (2003). *Who's in and who's out: Social exclusion in Latin America*. Washington, DC: Inter-American Development Bank.

Brundenius, C. (2015). *The socio-economic context and the millennium development goals*. In B. Göransson, C. Brundenius, & C. Aguirre-Bastos (Eds.), *Chapter 2: National innovation systems in developing countries: Making research and innovation matter*. Edward Elgar, in press.

Butzin, A., Davis, A., Domanski, D., Dhondt, S., Howaldt, J., Kaletka, C., et al. (2014, August). *Social innovation: Driving force of social change: Critical literature review*. Project SI-DRIVE under the 7th Framework Programme of the EU.

Carvajal, R. (2008). *5 Puntos Críticos en la relación Universidad—Sociedad—Estado* (Five critical points in the relation university—society and state). Presentación en la Universidad Mayor de San Simón, Cochabamba.

Carvajal, R. (2009). *Fortaleciendo las Instituciones de Innovación: El caso del sistema boliviano de innovación* (Strengthening the innovation institutions: The case of the Bolivian system of innovation). Presentación en el Seminario Regional, Monterrey, México.

Carvajal, R., & Albarracín, M. (2007). *Sistema Boliviano de Innovación* (Bolivian innovation system). Documento del Ministerio de Planificación para el Desarrollo, La Paz, Febrero.

CEUB. (2011). *Modelo Académico del Sistema de la Universidad Boliviana* (Acadeic model of the Bolivian University System). Comité Ejecutivo de la Universidad Boliviana, La Paz.

CEUB. (2012). *Estrategia Universitaria Nacional de Ciencia, Tecnología e Innovación (2012–2015)* (National university strategy of science, technology and innovation). Comité Ejecutivo de la Universidad Boliviana, La Paz.

CGD. (2008). *The growth report: Strategies for sustained growth and inclusive development*. Commission on Growth and Development, The International Bank for Reconstruction and Development/The World Bank On behalf of the Commission on Growth and Development, Washington, DC. Retrieved from www.growthcommission.org.

COBORSE. (2008). *Responsabilidad Social Empresarial en Bolivia: Aproximación a la situación actual* (Corporate Social Responsibility in Bolivia: Approximation to the present situation). Corporación de Responsabilidad Social, Agosto. Retrieved from www.emprender.org; www.coborse.org

Cozzens, S., & Sutz, J. (2012) *Innovation in informal settings: A research agenda*. mimeo of July 28.

Dunkerly, J. (1987). *Orígenes del Poder Militar en Bolivia 1879–1935 (Orgins of the military power in Bolivia)*. La Paz: Quipus editores.

Escalera, S. (2009). *Universidades indígenas y originarias en Bolivia* (Indigenous and originary universities in Bolivia). Comments in Bolpress. Retrieved April 20, 2009, from www.bolpress.com.

Göransson, B., & Brundenius, C. (Eds.). (2011). *Universities in transition*. New York: Springer.

Hall, J., Aguirre-Bastos, C., Matos, S., & Silvestre, B. (2014). *Shaping national innovation systems for inclusive growth in Latin America: Towards a research agenda*. Paper presented to the PRME (Principles for Responsible Management Education) Working Group on Poverty Conference, 28–30 July 2014, INCAE, Nicaragua.

Hall, J., & Matos, S. (2010). Incorporating impoverished communities in sustainable supply chains. *International Journal of Physical Distribution & Logistics Management, 40*(1/2), 124–147.

Hall, J., Matos, S., Sheehan, L., & Silvestre, B. (2012). Entrepreneurship and innovation at the base of the pyramid: A recipe for inclusive growth or social exclusion? *Journal of Management Studies, 49*, 785–812.

Ianchovichina, E., Lundstrom, S., & Garrido L. (2009). *What is inclusive growth? PRMED, a note requested by donors supporting the Diagnostic Facility for Shared Growth*.

IDRC. (2011, October). *Innovation for inclusive development: Program prospectus for 2011–2016*. Public Version, Ottawa.

Mello, J. M. C., Renault, T. B., & Araujo, F. O. (2016). Social development as an academic mission of Brazilian universities: Public policies and the case of the Federal University of Rio de Janeiro. In C. Brundenius, B. Göransson, & J. M. Carvalho de Mello (Eds.), *Universities, inclusive development and social innovation: An international perspective*. New York: Springer.

Molina, F. (2006) *Evo Morales y el Retorno de la Izquierda Nacionalista* (Evo Morales and the return of the leftist nationalism: Trajectory of the anti-liberal ideologies throughout the contemporary history of Bolivia). La Paz: Eureka editors.

MPD. (2006). *Plan Nacional de Desarrollo del Estado Plurinacional de Bolivia: Lineamientos Estratégicos 2006–2011* (National Development Plan of the Plurinational state of Bolivia: strategic guidelines). Ministerio de Planificación para el Desarrollo, La Paz.

MPD. (2014). *Directrices de Planificación de Mediano y Largo Plazo Hacia la Agenda Patriótica 2025* (Guidelines for Medium and Long Term Planning towards the Patriotic Agenda 2025). Ministerio de Planificación para el Desarrollo, La Paz.

Murray, R., Caulier-Grice, J., & Mulgan, G. (2010). *The open book of social innovation*. London: The Young Foundation and NESTA.

NESTA. (2008). *New approaches to transforming public services*. Policy Briefing, SI/18/January, National Endowment for Science and Technology

Ocampo, J. A. (2004). Economic development and social inclusion. In M. Buvinic, J. Mazza, & R. Deutsch (Eds.), *Social inclusion and economic development in Latin America* (pp. 33–40). Washington, DC: Inter-American Development Bank.

Orduna, V. (2012). *1994–2012: Casi dos décadas pensando el país, en Bolivia, contada a través del Programa de Investigación Estratégica PIEB* (1994–2012. Almost two decades thinking of the country, in Bolivia told through the Strategic Research Programme). La Paz.

Orellana, H. R., & Brouwers, J. (2012). *CAPTURED: Bolivia country evaluation: Report*. Retrieved from www.captured.org.

Orozco Ramírez, S., Garcia Linera, A., Stefanini, P. (2006). *No somos juguete de nadie: Análisis de la relación de movimientos sociales, recursos naturales, estado y descentralización* (We are nobdy's toys: Analysis of the relation of social movements, natural resources and descentralization). NCCR North–South, AGRUCO, Plural editores.

PIEB. (2011). *Factores que incidieron en el escaso desarrollo de Bolivia* (Factors that infuenced on the scarse Bolivian development). In J. A. Morales (Ed.), Temas de Debate, Programa de Investigación Estratégica de Bolivia. Número 18, Año 7, Diciembre.

Rocha, T. J. C. (2014). *Agenda Patriótica 2025: Para una Bolivia digna y soberana* (Patriotica Agenda for a dignified and sovereign Bolivia). Gobierno Autónomo Departamental de

Chuquisaca, Cartilla Comunitaria 4, Sucre. Retrieved from www.fortalecimientochuquisaca.gob.bo.

Rodriguez-Ostria, G., & Weise Vargas, C. (2006). *Educación Superior Universitaria en Bolivia (Estudio Nacional)* (University higher education in Bolivia—National study). UNESCO, Institute for Higher Education for Latin America (IESALC), Talleres Gráficos "Kipus", Cochabamba.

Sandoval, G. (2014). *Nuevos tiempos en la investigación en Bolivia* (New times in research in Bolivia), note published by the journal La Razón. Retrieved July 6, 2014, from www.la-razon.com/index.php?_url=/suplementos/animal_politico.

Schilling-VacaflordelCarpio, A. (2014). *Bolivia's new constitution: Changes and challenges, Atomium culture*. Brussels: European Institute for Science, Media and Democracy.

Sen, A. (1997). Social exclusion: Concept, application and scrutiny. *Social Development Papers* 1, Manila: Asian Development Bank.

Serrudo Ormachea, M. (2006). History of the Bolivian University. *Rhela, 8*, 49–64.

Stiglitz, J. (2002). Employment, social justice and societal well-being. *International Labour Review, 141*, 9–29.

UNDP. (2011). *Informe Nacional sobre Desarrollo Humano en Bolivia: Los cambios detrás del cambio; desigualdades y movilidad social en Bolivia* (National Human Development report in Bolivia: The changes behind the change: inequity and social mobility in Bolivia). La Paz. Retrieved from http://idh.pnud.bo.

UNDP. (2013). *Human development report 2013*. New York: UNDP.

UNDP. (2014a). *Perfil de estratos sociales en América Latina: pobres, vulnerables y clases medias* (Profile of social strata in Latin America: por, vulnerables and middle clas). Programa de Naciones Unidas para el Desarrollo, Nueva York.

UNDP. (2014b). Human development report: Sustaining human progress: Reducing vulnerabilities and building resilience. New York: UNDP.

UNDP. (2015). *Human development report 2015: Work for human development*. New York: UNDP. Launched on December 14.

VMCT. (2013, June). *Plan Nacional de Ciencia, Tecnología e Innovación* (National Plan for science, Technology and Innovation). Retrieved from www.cienciaytecnologia.gob.bo.

Chapter 6
Universities, Inclusive Development, and Social Innovation: Does That Debate Matter in Cuba?

Jorge Núñez Jover, Galia Figueroa Alfonso, Ariamnis Alcázar Quiñones, and Tamara Proenza Díaz

Abstract We argue in this chapter that the role of universities in the Cuban innovation system is becoming increasingly important for solving social, economic, and environmental problems in the country. The chapter also discusses why concepts such as social innovation and inclusive innovation are not mentioned (so far) in Cuban policy documents. There are, however, many examples of what could be called social innovations in Cuba, related not least to the dynamic biotech sector in Cuba. We discuss the potential of the university to generate innovations that promote social inclusion and sustainable development. Main barriers to such efforts include a narrow approach to social innovation and a lack of understanding of innovation as a systemic process. Cuba's STI policy remains top-down and without an explicit strategy on social innovation. The chapter concludes with a discussion of some of major challenges that STI and Higher Education policies face towards the goal of social inclusion.

Keywords Cuba • Universities • Social innovation • Inclusive development • Local development • STI policy

Introduction

The relatively recent emphasis on concepts such as "systems of innovation for inclusive development" (Dutrénit and Sutz 2013), "socially oriented innovation systems" (Sutz 2010:13), "social innovation" (Mulgan 2006; Martin and Osberg 2007; Phills et al. 2008; Bortagaray and Ordóñez-Matamoros 2012; Arocena and Sutz 2012), "social technology" (Lassance et al. 2004; Dagnino 2009), "social

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technology systems" (Thomas et al. 2012), and "local systems of innovation and production" (Cassiolato et al. 2013) can be explained in relation to some relevant aspects of contemporary society. In general these concepts share the goal of criticizing the dominant technological and knowledge dynamics that excludes large social sectors and instead, they seek to promote policies that favor socio-technical trajectories (Thomas 2008) aimed at meeting social needs and sustainable development.

Humanity faces serious economic, political, social, and environmental problems that pose formidable technological challenges. The growing inequalities in the contemporary world in the generation, access, and use of technologies produce new and greater inequality between people, organizations, and countries. However, science, technology, and innovation are mainly guided by the market and the pursuit of profit. Innovation systems should go beyond the objectives of economic growth and competitiveness and incorporate other goals such as inclusion, cohesion, combating poverty and inequality, and environmental sustainability, among others.

According to OECD: "There is a broad consensus that, the disconnection between economic growth and social welfare is increasing. At the same time, research and innovation have become one of the main engines of growth. However these two trends could not be reconciled: there is a clear lack of exploitation of innovative solutions aimed at addressing social problems"(OECD, 2011:8).

According to UNDP: "Technology is created in response to market pressures, not the needs of the poor" (UNDP, 2001:3). The Global Network for the Economics of Learning, Innovation, and Competence Building Systems (Globelics) asserts that economic growth in less-developed countries has gone hand in hand with an increase in poverty among disadvantaged social and ethnic groups. Globelics proposes to move towards inclusive development:

> Inclusive development is a process of structural change, which gives voice and power to the concerns and aspirations of excluded otherwise groups. It redistributes the incomes generated in both the formal and informal sectors in favors of these groups and it allows them to shape the future of society in interaction with other stakeholder groups (Andersen and Johnson 2012:10).

Inequality, poverty, and social exclusion are problems that affect mainly the populations of the developing countries that face serious difficulties in meeting basic human needs for food, health, energy, and housing, among others. The situation in Latin America and the Caribbean is at stake. Economic and social indicators are worrying; unemployment, marginalization, poverty, and violence tend to worsen. Knowledge and technology should be reoriented towards solving the enormous social debt that characterizes the region.

There is a gap between social policies on the one hand and STI policies on the other. Although poverty and inequality are at the heart of the debate of the research agendas of social sciences, discourses, and policies of international organizations; knowledge is not always considered as a centerpiece in the solution of those problems (Casas et al. 2013:59). Social policies do not often consider the role that STI could play in fighting poverty and precariousness reduction in its different dimensions (Casas et al. 2013:57). Solving the problems of poverty, exclusion, and underdevelopment requires taking into account science, technology, and innovation,

so a discussion of STI policies is needed. Discussions like this, however, have important antecedents in Latin American thought on Science, Technology, and Society (Dagnino et al. 1996).

Amílcar Herrera (1973) stressed the distinction between technological innovation and social innovation capacity. The first is understood as the ability to create a solution for a specific technical problem of the production system, while the second refers to the ability of a society to incorporate technological progress according to its own conception of development. From Herrera's point of view, it is not about promoting STI policies that mimic the priorities of developed countries, but to develop a proper, Latin American, understanding of development that incorporates STI policies to meet the needs of societies, including the basic needs of the population, reconciling economic and social development goals.

In Latin America and the Caribbean, however, there are serious problems with the production and use of knowledge. The knowledge produced is barely used. Research and training capacities of universities often remain distant from social problems. In any case, they are oriented to the service of private enterprise. The academy hardly picks up signals from claims associated with social inclusion. Moreover, the predominant forms of academic assessment and incentives support this. The evaluation has been standardized through bibliometric indicators. The public research sector has an incentive system that pushes it to basic sciences development.

Another problem is the limited interaction between the academia, the governments, and the production sector. The academic evaluation system and incentive schema do not favor little STI solutions related to social inclusion behaviors. Knowledge and social policies are often dissociated. In short, the current socioeconomic context and the challenges in terms of equity, inclusion, and sustainability explain the importance of concepts such as social innovation, inclusive innovation, and others above mentioned as they identify ways of producing knowledge and innovation oriented to benefit most vulnerable social groups.

The introduction of these concepts is also related to changes in the understanding of technology and innovation. In recent decades the perception of technology and innovation as a social process, distributed, interactive, participative, and systemic has increased (Arocena and Sutz 2003), which is highlighted by expressions such as "innovation systems" (national, sectorial, regional); "local production and innovation systems"; and "social technology systems," among others. The social dynamics of technology is highlighted by approaches from the sociology of technology and socio-technical analysis. Technological development is not considered as a linear inexorable process. The idea that technological change is not unidirectional allows us to imagine different designs for STI public policy that encourage different "technological paths" (Thomas 2008).

The selection of these paths should be a technical process not only focused on the experts. It should be a political, democratic process, involving both technology producers and users in the decisions. Governance schemes for social inclusion require greater participation, in which knowledge users do not behave merely as passive agents or receivers of an unalterable information, instead, they are involved in the

generation of solutions to health problems, housing and, actively participate in creating opportunities and decisions (IDRC 2011). Technology and innovation should also be a way forward in political and economic democracy. Innovation systems should be socially inclusive. In order to do so stakeholders should be mobilized to participate in the design and implementation of public policy, of university and research policy, including international cooperation.

Does Social Innovation Exist in Cuba?

"Social innovation" (SI) or similar concepts are not used in the current debate or policies formulations in Cuba. Nor are they mentioned in the *Lineamientos,* the Guidelines for Economic and Social Policy (PCC 2011), adopted by the 6th Communist Party Congress in 2011. Nor were they mentioned in 7th party congress celebrated in April 2016. There is no reference to SI by Cuban public policymakers. This begs the question: why? In our view there are three possible interrelated explanations. The first explanation is sociopolitical, the second relates to the prevailing conceptual aspects in STI policy, and the third one to the development of social sciences. Let's start with the sociopolitical argument.

Social Policy in Cuba Before and During the "Special Period"

In the case of Cuba, it can be argued that social policies of the last five decades have had an inclusive permanent vocation. Two key elements made that possible: the understanding of (1) development as social development and (2) social justice as social equality (Espina 2005).

The Cuban social policy comprises, as inalienable rights of the citizens, four basic needs: free education (at all levels of education), free health services, guaranteed work (with protection, safety, health, and the right to rest), and social security, irrespective of race, ethnicity, gender, or religious belief. Policies have been constructed for universal application, with the state as the central actor in the design and implementation of these policies, as well as the distribution and management of the social budget. The state budget is the key funding source for social policy.

The homogenization of society was a central objective of the policy until the 1980s as well as improving the living conditions and material welfare of the population (INIE, CEPAL 2004). The policy also had specific objectives related to the incorporation of women into public life, improving living conditions in rural areas, humanizing certain jobs characterized by its roughness, and achieving a narrow frame of differences in wage income.

These policies were upheld even during the harshest times of economic crises after the demise of the "socialist camp" after 1990, and the subsequent dismantling of the cooperation with the Soviet Union and other socialist countries in Eastern

Europe had a devastating effect on the Cuban economy. Between 1990 and 1993, the Cuban economy, as measured by GDP per capita, fell by 33 %, initiating the "Special Period in Times of Peace," with severe hardships and sufferings among the population. However, the Government did its utmost to mitigate these consequences for the population.

Although food supply was severely reduced during this period, the social budget was more or less sustained, with about a third of the government budget allocated to education, health, social security, and social assistance (Brundenius 2002). However, while the allocations to health, social security, and social assistance increased from 19.2 % of the budget in 1989 to 20.9 % of the budget in 1993,[1] the education budget actually decreased in the same period. But although the social budget commitments were stable during most of the 1990s, the social expenditures in constant pesos did not recover their pre-crisis level until 2000. The reduction of education expenditures is to a large degree explained by the declining enrolments at universities during this period.

However, in spite of the persistence of social policies in fields like health and education, the existence of subsidized products and services, and the effort for the most equal wealth distribution possible; social phenomena like poverty, inequality, inequity, and marginality have been accentuated in the last decades (Espina 2012). Recent studies estimate that 25 % of Cuban population lives in poverty (Zabala 2014).[2] It is imperative to increase food production substantially in Cuba, to accelerate housing construction, to enhance the use of renewable energy sources, and to see to that social benefits reach all sectors of the population.

Despite this, the official discourse not yet explicitly incorporates issues of poverty, vulnerable, excluded, and marginalized groups. What is already accepted is that there are differentiated needs among individuals, families, communities, and territories. Those necessities demand the unfolding of technological and innovative solutions, supported by knowledge and scientific research.

The Concept of Science and Technology Policy in Cuba

In Cuba, like in other countries in Latin America, most of it the science and technology capacities are concentrated to the universities. However, it is not always easy to relate those capacities to people's daily needs. Frequently the university

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[1] It should be noted that in terms of percentage to GDP this budget is the highest compared to many countries in Latin America, which reached 32 % in 1998, 30.8 % in 2002 (INIE, CEPAL 2004), and 40.8 % in 2009 (CEPAL 2010).

[2] It is important to acknowledge that poverty is a relatively recent topic in social sciences agenda in Cuba. There are not many general or national studies, less can be found in national statistics. Nonetheless, there is a growing amount of study cases that indicate the existence of poverty and its many dimensions (much of them founded by CLACSO-CROP Scholarship programs). See: Zabala Argüelles, María del Carmen (comp.) Algunas claves para pensar la pobreza en Cuba desde la mirada de jóvenes investigadores. FLACSO-Centro Félix Varela; 2014.

agenda, with its prevailing institutional structures and policies and incentive systems, generates scientific and technological dynamics that are hardly connected to the daily necessities of the citizens. The lack of coherence between STI policies and human development goals, which has encouraged the emergence of social innovation in other countries, has not been seen as being relevant in the Cuban context.

A second argument concerns the conceptual framework. Although a new STI policy has been proposed in Cuba since the 1990s, the dominant STI model continues to be the linear model (Núñez and Montalvo 2014). Little has been done to understanding innovation as a social interactive learning process: distributive, systemic, influenced by social, political, institutional, cultural factors.

There is not an explicit policy that incorporates the set of organizations that contribute to the development of innovative capabilities of the country and regions, sectors, and localities and identify learning as a key vehicle for innovation. The prevailing innovation model in Cuba can be described as Cassiolato's "narrow approach system" (Cassiolato et al. 2013), focused mainly on science, scientists, and state owned companies (SOEs). Nor are social technology approaches visible official documents. However, this does not mean that there are no social innovation experiences in Cuba. Indeed, many scientific and technological developments have that orientation.

Performance of the Social Sciences

Finally, a third reason is that it is relatively recently that Cuban social sciences and economics included in their curricula topics such as social structures and mobility, poverty, inequality, and vulnerabilities (Figueroa Alfonso 2010). They were all considered taboo subjects prior to the economic crisis of the 1990s. This delay probably affected the possibility of scientists to elaborate around concepts as social inclusion and innovation. In addition, social and economic approaches to science, technology, and innovation had little space in the academia, with little visibility.[3]

Furthermore, even when some research was done in relation to such topics, it is even more recent that social scientists began participating in policy-making, or similar kinds of consultancy. Prior to 2000, contacts between social scientists and policy-making processes were sporadic. There was not a culture to use and diffuse the results of social sciences among policymakers (Figueroa Alfonso 2010). With the process of "updating of the socioeconomic model," working groups were set up by the government for designing new policies in the fields of economics, education, science and other fields. A great number of university professors and researchers have been invited to participate as experts in such groups.

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[3] One exception is the department of social studies of Science, Technology, and Innovation of the University of Havana.

The University in the System of Science, Technology, and Innovation

The policies of science, technology, and innovation in Cuba have traditionally focused on solving relevant problems to the society. The explicit interest for the social use of knowledge is actually a long-standing idea. The declared purpose of the national science and technology policy has always been to prioritize the economic and social development of the country. Scientific and technological knowledge has been used to ascertain social justice targets. Health, science, and education are considered key elements for achieving those goals (Núñez et al. 2011a, b). Cuban universities nowadays also actively participate in the STI policy and constitute important actors in the innovation system.

The social orientation of the STI policy can be illustrated by some examples. The Research Report on Science, Technology, and Human Development sponsored by UNDP (CIEM 2004) showed the existing strong links between the processes of production, dissemination, and use of knowledge and technologies and human development objectives. The World Science Report 2010 (UNESCO 2010) asserts that Cuba exhibits a Human Development Index that ranks among the highest in the region; university education prioritizes the training of doctors and teachers; women represent over 53 % of professionals in the country; there is a national strategy for science and technology focused on national programs of great social relevance and that highlights the advances in the design and production of medicines and other areas such as disaster monitoring and mitigation.

The development of the biotechnological sector illustrates this. The main ten biotechnology institutions in Cuba carry out more than 100 research projects, mostly applied to life sciences. The sector has more than 10,000 employed, more than 3000 graduated university students, 16 producer organizations, and 9 commercial companies. Those institutions have generated a product pipeline with more than 60 new products, more than 180 patented inventions and 1000 patents submitted, exports to more than 50 countries, and the use of more than 141 products in the Cuban health system. Access to health care is free and medicine prices are heavily subsidized by the state (Núñez and Figueroa 2014).

The case of the synthetic vaccine for haemophilus influenzae Type B (Hib) is a good example to illustrate how an innovation developed in a university can enhance social inclusion (Pérez and Núñez 2009). The effort to achieve this vaccine took nearly 15 years. Some of the premises of the research were as follows: child health is a high priority; all children should have free access to influenza vaccine; available vaccines are expensive, and the resources of the health system are limited. This led researchers to look for a new *synthetic vaccine* which was a radical innovation of great social impact. It was an ambitious task: to find an inclusive solution when only exclusive (expensive) solutions were available (Arocena and Sutz 2009). The vaccine is applied freely to Cuban children and donated to many poor nations as international solidarity.

The contributions of Cuba in the field of health in developing countries are well known. The cases of Haiti, Brazil, and many African and Latin American countries are illustrative. The "Operación Milagro" (also known as "Misión Milagro") is a good example. Operación Milagro is a humanitarian project, created by Cuban government in July 2004 with the support of Venezuela. The main objective was to help poor people suffering from different ophthalmologic diseases in a variety of Latin American countries. In 2007 one million persons were operated for free. After 10 years, more than three millions surgeries have been made to people from 34 countries in Latin America, the Caribbean, Asia, and Africa.

The Program "Yo sí puedo" is another good example of dissemination of knowledge and technology for everyone. "Yo sí puedo" is a literacy method of how to teach people to read and write, primarily in Spanish, in a period from 7 weeks to 3 months. The Program was set up in 2001/2002 by a Cuban professor after a request by the Government. The major goal was to cooperate in the elimination of illiteracy internationally. It has been mainly implemented in Latin America and Africa, but there are experiences also in New Zeeland and recently it was implemented in Sevilla, Spain. It is a very cheap method carried out by governments, NGOs, and religious organizations. In January 2015, the Ministry of Education in Cuba announced that more than nine million people have learned to read and write worldwide with this method. Cuba has also made a difference in the fight against *ebola* in Africa, a fact recognized in an article in the New York Times (New York Times, Oct. 19 2014).

Health and education together occupy a central place in Cuban social policy. In the past five decades Cuba has trained 1,320,350 college graduates, of whom 304,616 are in the area of health. The training of teachers is even greater: 425,570 graduates (MES 2014). So in Cuba, at least in some areas of social policy, we notice a strong linkage between social and science policy and training of human talents.

The context for innovation policy in Cuba is to be transformed substantially. In April 2011 the 6th Congress of the Cuban Communist Party was held and the Economic and Social Guidelines of the Party and the Revolution were approved. The Guidelines propose a series of measures that relate to science and technology policies technological changes. They offer new ideas for the satisfaction of social needs such as housings, food production, the increase of renewable energy sources, among many topics. The document also suggests a bigger participation of the universities in the solution of these problems.

The Guidelines emphasize:

- The need to mobilize all the country's productive potential capacities
- The urgency to use all the human resources, knowledge, and innovation
- A decentralization process in areas of decision making and economic and financial administration
- The diversification of property forms: such as cooperative and private property
- Prioritization of local development

The document also gives an important role to universities in the present and future solution of the problems that limit the development of Cuban society.

In Chapter V. "Science, technology, innovation and environmental policy," the guideline 129 states the need of designing:

a comprehensive policy for science, technology, innovation and environment that considers their accelerating rate of change and growing interrelationship in order to meet the development needs of the economy and society in the short, medium and long term; and that is oriented toward improving economic efficiency, expanding high value added exports, import substitution, meeting the needs of the population and promoting their participation in the construction of socialism, and protecting the national environment, patrimony and culture (PCC 2011:21).

As we see the policy formulations of STI preserve its strong focus on solving the problems of national development. In correspondence with the general definitions of STI policy, the university research shares a strong orientation to solving development problems and the university is an active participant of innovation systems at the national, regional, and local level (Núñez et al. 2011a, b).

There are different models and perspectives concerning innovation systems and the role of universities within them, which have been debated in recent years. Some of these perceptions consider market as the privileged goal for university research and innovation; others encourage an academic ethos without social compromise. Our model differs from all these.

With regard to Latin America, Dagnino (2004) has criticized the model of university research and the dominant values in higher education. His criticism relates mainly to the Brazilian university system but could also be applied to the rest of Latin America. His criticism can be summarized as follows:

1. Basic research is disconnected from social demands and needs.
2. The role of the university should be to provide knowledge to society, irrespective of user.
3. Researchers are more concerned about legitimacy with their foreign counterparts, mainly through publication in international journals, than with their own society.
4. A dominant institutional culture that is not very interested in discussing research agendas and training of human resources that would be appropriate to strengthen university-society links.

Cuban universities are exceptions, however, since they work with another model and with other hegemonic values. University strategies are built up in interaction with society. Hence the Cuban model of relation university-society has been labeled as "interactive model" (Núñez and Castro 2005). It assumes that society is much more than a market. Knowledge and science can meet commercial demands, but mainly social necessities. Formation and research calendars aim at promoting the widest social appropriation of knowledge and its benefits, in search of equity and social justice. For that purpose all sources of knowledge are potentially useful: science and technology, social and humanistic sciences, and arts. We consider that the "interactive model" facilitates the participation of the university in the innovation system.

To characterize the model and judge its ability to meet social needs, we can mention its foundations and activities that surround it and which we believe are important to the innovation system.

The model is based on:

- The conjunction of attaining academic excellence combined with social relevance and impact.
- High quality university performance is socially pertinent, and oriented to satisfy social needs.
- Planning short and medium term of university activities in regard to the design and evaluation of the economic and social impact of the university, including the impact of R&D and teaching and training of human resources.

We identify the following roles of university in the system of innovation:

- Formation of university graduates
- Ensuring postgraduate education
- Carrying out an important part of the country's R&D activities
- Participation in the construction of the country's economic and social policies
- Undertaking the training of executives
- Contributing to support the local development strategies

The first three are the usual roles of universities. The last three require a brief explanation regarding Cuban context. As mentioned earlier, the country is transforming its economic and social model. More than in previous periods, universities are participating in the formulation of the development model and respective policies. Professors participate as consultants in committees and working groups for the designing of policies. In this way, the results of accumulated research (with insufficient practical use in the past) and expert opinions are directly contributing to the decision making.

The changes in the model also create a demand for the training of business executives and public administration involved in policy implementation. Universities are responsible for this training. In the past decade universities have become increasingly oriented towards local development goals. In previous articles we have called this process the "territorial turn" in Cuban universities (Núñez et al. 2013; Núñez and Figueroa 2014; Núñez and Montalvo 2014). It began with the idea of universalization of higher education, by making it available to young people at every corner and municipality in Cuba. This enormous change had the objective of guaranteeing full access to higher education through a process of creating local affiliates of university institutions. Those institutions, initially called "Sedes Universitarias Municipales" (Municipal University Headquarters, SUM), were created in the 169 municipalities of the country (Núñez, Benítez, Hernández and Fernández, 2008).

The task, assigned to the SUM, was to offer undergraduate studies in careers of social sciences and humanities that could be developed with relatively modest resources. The SUM constituted an institutional innovation that made it possible for young people from the municipalities (even remote ones) to pursue high education studies. The SUM had no doubt a favorable impact on the development of the municipalities all over the country. However, the SUM project was not conceived to be necessarily linked to the development plans of the municipalities. The careers

were not designed to be streamlined to the needs of the local community, and there was no incentive structure for innovation, even less so social innovation. Today the contribution of higher education institutions to local development is considered as a key element. This new policy implies a new role for higher education and science and technology in Cuba, and modifies gradually the role of the university at the territorial and local levels.

The outreach to local development accentuates the social nature of the research and academic innovation, creating direct links between these activities and the solution of problems that people encounter in their daily lives. The emphasis on links to local development has no prior antecedents in higher education policies, or STI policies, in Cuba. Surely this means new challenges for higher education institutions and traditional ways of producing and disseminating knowledge.

The actors involved in higher education system today are essentially three: (1) universities, usually placed in the provincial capitals, which have research groups formed by researchers, teachers, and students; (2) research centers, attached to or linked to universities, which have a special dedication to research and innovation and sometimes manage to sustain socio-technical networks in the territories, and finally; (3) the Municipal University Councils (CUM).

Those actors (a) interact with local governments and other local actors; (b) participate in the design of development strategies incorporating knowledge and technology; (c) promote the necessary training programs for local development; (d) collaborate in the creation of connections between actors of the municipality and research institutes and universities to build networks and flows of knowledge, technologies, to solve problems of local development, among others. In accordance with these principles, the agenda for scientific and technological research is also expected to have social positive impacts. Some R&D areas are prioritized:

- Food production
- Sustainable energy development
- Health: the medical-pharmaceutical and biotechnology industry
- Environment
- Information technologies and communications
- Nanotechnology, new materials, bio-informatics, and complex systems
- Social sciences, humanities, and pedagogy
- Housing and habitat

A group of mechanisms are established to ensure the social and economic relevance of research projects. Some of these are: (1) the scientific councils of the faculties and research centers collectively approve projects; (2) the social and economic relevance is among the selection parameters; (3) additionally, in the case of doctoral theses, the research proposals are reviewed by specialists who evaluate the project in relation to current STI policy.

The mechanisms of evaluation and accreditation of university institutions and graduate degree programs also ensure social and economic relevance. These are periodically evaluated according to a set of criteria. Among these, the interaction with other local or national socioeconomic actors is considered a key.

Funding Science and Technology

The issue of funding is one of the most serious problems for the STI system in Cuba in general, and universities in particular. University budgets are provided by the State budget. This budget allows some basic expenses: wages, electricity, basic infrastructure, etc. Universities need more resources and therefore also use other sources. In identifying possible funding sources it is important to have a clear picture of the type of research activity that universities and university faculties perform. Numerous international academic agreements, especially with funding agencies in Latin America and Europe, provide access to information, high-level training abroad, and support of university infrastructure. Research topics and academic exchanges are related to research agendas recognized by the institutions.

The sale of products and services derived from university knowledge also constitutes an important source of funding. Cuban universities have been oriented towards innovation since the 1990s (Núñez et al. 2011a, b). There is a limited portfolio of products and services that are marketed by the universities through offices dedicated to this purpose with Cuban and foreign companies. A portion of these revenues allow institutions and groups involved to obtain resources to expand its innovation capabilities. In addition to regular budgets of institutions, the government periodically allocates resources for universities to meet needs of high relevance (food, defense, etc.). The social and economic impact of these activities is very high.

In particular it is important to boost local development activities by involving universities. Some examples linked to university participation in local development can illustrate this. The examples are linked to three areas of great social importance in Cuba: housing, energy, and food production, especially on a sustainable basis.

Universities and Local Development

Habitat

The housing problems in Cuba have been considered a high priority by the government. The last Census of Population and Housing (2002) estimated a shortage of 500,000 units. Meteorological phenomena such as hurricanes with destruction of houses, in particular in the countryside, have added to the problem. Traditional technologies, with their requirements of a high level of centralization, do not resolve the problem effectively, nor efficiently.

Universities have developed some technologies to address the problem. One of the best examples is the production of eco-materials (produced with economic and ecological criteria in mind). This housing technology encourages production of housing units at the municipal level using local resources and raw materials. It is based on resource use decentralization and popular participation processes.

This socio-technical trajectory was born in the early 1990s, at the Research Center of Structures and Materials (CIDEM, Spanish acronym) of the Central

University of Las Villas. According to recent data, the CIDEM promotes, in coordination with the Ministry of Construction and other stakeholders, a national network of local production of eco-materials. About 2500 households benefit each year from this project. One of its most relevant results is the ability to carry out the industrial production process of building materials at the small scale. Through this alternative it is possible to produce all the materials needed for a house. This social technology generates very favorable socioenvironmental impacts: stimulates local development; reduces transportation costs, energy, resources; accelerates the solution of the housing problem; recycles potentially polluting waste; creates jobs, among other benefits.

Various relevant social groups are involved in the management, organization, and implementation of this social technology: provincial and municipal governments, housing institutions and entities, industry, university, and beneficiaries. The successful operation of this technology depends heavily on the connections between these groups in municipalities. The staging of this technology allows the generation of endogenous dynamics of innovation in municipalities revivifies local housing production chain, including its management system, and also the ways in which local actors should appropriate that knowledge. This collective effort is accompanied by capacity building processes, training, and assessment; generating employment, quality of workmanship, and new concepts in local stakeholders involved in decision making.

Since 2007 the CIDEM and other universities collaborate in the implementation of the project "Support to Habitat."

Currently, the 2011–2014 phase of the project is challenged to develop and implement a municipal technology strategy for the creation of habitat that incorporates both state and non-state property. This vision is promoted by the *Lineamientos* (Guidelines) and should promote a systemic and comprehensive view of habitat and municipality, in support of local development. The development of these technologies relies heavily on international cooperation. This case shows that it is possible to co-construct research and innovation agendas with international agencies, reconciling international priorities such as environmental sustainability, and inclusion objectives, with the R&D+i (i=innovation) agendas of the universities.

Research on the materials used and practical experience accumulated granted to this technology a high value-added knowledge. The use of eco-materials to produce social housing is a different way to design, organize, implement, and manage science and technology in the country, generating real socio-technical systems that support dynamic social inclusion and sustainable development.

Behind this practical effort there is relevant scientific research not only from CIDEM but also from other research centers and universities. The attempt to produce "low carbon cement" is international significance. Cement factories are big polluters. The CIDEM develops a technology that replaces a large part of clinker, high consumer of energy, with zeolitic materials burned in special furnaces for this purpose. The innovation is at the hi-tech frontier of innovations and knowledge on the subject. The CIDEM has in recent years produced more than a dozen Ph.Ds. on these issues. In other words, they have combined advanced research and training

with the generation of technologies and innovations of great social impact and generating social inclusion.

The advancement of this technology, however, faces difficulties. Only less than 40 % of the installed capacity in municipalities is being used. Production of machinery has been affected by deficiencies in industrial production; difficulties in the supply of raw materials and inadequate production ceilings are significant. Sometimes the mechanisms of sales to the population have been inefficient. Progress is still slow in the design and construction of houses. Similarly, there has been an uneven technological appropriation by governments and leading actors. A more active participation of the Ministry of Construction should boost these efforts.

Biomass

Another technological development of broad impact on local and sustainable development is related to power generation in rural areas, promoted by various actors, including an R&D+i of higher education: Station Indio Hatuey that has over 40 years of experience has accumulated significant capabilities in research and innovation issues. Indio Hatuey participates in the project "Biomas Cuba" that promotes the use of energy renewable sources to improve living conditions in rural areas of the country. The project encourages the development of local technological alternatives for generating energy from biomass and biodiesel production.

This case illustrates the role that international cooperation or partnership can play. Swiss International Agency COSUDE funds the project. The agency selects projects taking into account not only the projects' objectives but also their emphasis on actors, beneficiaries, and criteria such as justice, gender equality, and local governance. COSUDE not only supports Station Indio Hatuey funding, but also as a supplier of technology, knowledge, exchange with international actors, etc. It can be considered a good example of collaboration between an international agency and higher education.

Among social technologies that implement Biomas Cuba, is the production of biogas and biofertilizers (fixed dome digesters) for the production and cooking (human and animal) food, waste, and electrification. Many users have benefited from the results of these technologies has generated as reducing energy consumption, levels of pollutant gases to the environment, and high production of food by agro-ecological system. The project also seeks the production and use of biodiesel from nonedible oilseeds and their products for animal feed and gasification of agroforestry and farm for the production of electricity in small isolated rural communities in the national energy system waste. These alternatives are underway in 14 municipalities in five provinces.

This project has managed to coordinate a network of actors and partnerships between local governments, COSUDE agency, producer associations and professionals, municipal offices, and other national and regional organizations. Such connections have played an essential role in the "emerging" local innovation systems that attempt to break into Cuban municipalities. In the development of these tech-

nologies has been significant Indio Hatuey's research capacity and innovation. Its researchers have developed studies to the use of nonedible oil plants and identified the most useful for this species. They have made the chemical characterization of oils and other substances of interest for the production of biodiesel in Cuba. Researchers at Indio Hatuey have also generated organizational innovations type as the "Finca Agro-energética," which is conceived as "productive farm where they develop, improve and evaluate technologies and innovations to produce in an integrated manner, food and energy, which is used as an input to produce more food on the farm, in order to improve the quality of rural life and protect the environment." The validation of this technology relies on doctoral studies conducted by the institution.

Indio Hatuey's contribution to capacity building processes is noteworthy, especially among stakeholders in the project and adaptation and optimization technologies. In Cuba there is not a strong institutional framework to support renewable forms of energy (RFE). In particular, the country lacks a law that promotes RFE. This project, along with others, encourages the creation of this law and with it a whole system of mechanisms, incentives, input markets etc. that complement the development cycle of the RFE in Cuba. The absence of such institutions (among other factors) affects the project's progress and advancement of these technologies today.

Food Security and Biodiversity

In the area of food production, universities are actively involved with numerous projects that operate several municipalities. In this field of research and innovation universities face many challenges regarding state national priorities: the need for a shift to lower input agriculture based on ecological principles; the renewed emphasis on local development, food import substitution, cultivation of unproductive lands, and the promotion of biodiversity.

In these contexts, many of our academic centers have introduced interesting changes in their modes of research and knowledge production. The National Institute of Agricultural Sciences (INCA), founded in 1970, is one of them. Currently, INCA prioritizes the country's policies regarding import substitution, food security, and sovereignty, as reflected in the *Lineamientos*. In this sense, focused research and postgraduate training towards a sustainable low-input agriculture, emphasizing proper use of chemicals through the contextualization of their productions to tropical conditions; and promoting the creation and use of natural products.

One of INCA's most important areas of work is the genetic improvement of plants. This is done under conventional methods and/or participatory methods. The latter are used by the program "Spread of Participatory Plant Breeding in Cuba" (FP) that is promoting the center since 2000. The program highlights the successful collaboration of more than a dozen research centers and universities and a similar number of international organizations and agencies. The FP emerges as an alternative to the deteriorating

conditions, accentuated the heat of the crisis of the 1990s, conventional production systems, breeding and seed distribution of centralized nature (Ríos et al. 2011). FP gathered a group of researchers from INCA and other academic institutions, as well as producers of agricultural cooperatives in the west of the country, who worked on improving maize and bean seeds, after rice seeds were also included.

The experience drew from the study of informal systems of production and distribution of seeds in the local Cuban context, and various experiences in nearby Latin American contexts. These processes provided key lessons for the construction of new research practices and learning to revitalize formal systems on local bases (Ríos et al. 2011). Methodologically, the program was marked by the horizontal dialogue of knowledge between researchers and farmers and by the criterion of "learning by doing." Based on a philosophy of: "There is no better or worse seeds; there are seeds for different cultures and different agro-systems," FP developed local diagnoses, local fairs of agrobiodiversity, and encouraged farmer experimentation processes.

From these methodological lines, the program has obtained, with and through the participation of farmers, a variety of seeds tested in their real contexts and validated by their producers and consumers in a participatory manner. He also managed to multiply and disseminate these varieties that the population qualifies as best by sharing farmer-to-farmer, farmer-researcher, and networks that interaction between these actors produced. Thus conjugated efficiently trans-discipline, capacity building in their application contexts; quality control, accountability and social reflexivity; and own organizational heterogeneity and diversity of Mode 2 (Reddy 2011).

The leading role of INCA in developing this program visualizes, from its inception, the role of higher education as a bridge between (1) knowledge, science, and technology and (2) local economic and social development. It also shows the potential of higher education to influence the solution of socioeconomic problems and levels of local development. Among FP's greatest achievements in the last few years are the incorporation of local governments and associated decision making as key players in the process and the adoption of a more general view from approaches, such as the Local Human Development and Food Security and Sovereignty.

The Red PIAL (Network for FP) has spread into 10 provinces, species, varieties, and technologies friendly to the environment, emphasizing the empowerment and participation of farmers; and gender, trying to reduce equity gaps and to visualize the productive roles of women in the rural context. PIAL promotes networking that allows the formation of innovative circuits and interactive learning spaces (Arocena and Sutz 2003).

In general, the PIAL has promoted inclusive development processes. Two of the cornerstones that show what are the processes of participation and learning promoted. Both axes have reached a crucial impact on the ownership and leadership of the producers, in recognizing and encouraging local agricultural innovation, as well as the joint construction of local actors and work platforms (Group of Authors 2011). They have also no doubt shown irrefutably the advantages with higher education as a key player in these processes. In promoting participatory stakeholder consultation, the PIAL works as an interface between scientific research and transformation in local contexts.

Learning processes that facilitated the program not only have an impact on the technical and productive dimension of food production, but on the culture of participation, on the exercise of criticism and overcoming inequalities (as gender inequalities, specially attended for the project). They have also contributed to the dissemination of experience and identity of PIAL.

In terms of food sovereignty, the program has decreased levels of external dependence of production, promoted the leadership of peasants, and increased the yield of crops and animals. In terms of quality of life, embedded peasants have increased the value of household consumption, diversified diet based on fruits and vegetables, improved the constructive state of their homes, and overcome some levels of gender inequality (Group of Authors 2011).

PIAL experiences are expressed also on Ph.D. research, a dozen master's thesis, tens of dissertation, and almost 100 articles.

In its current phase, PIAL faces several challenges: achieving a more effective incorporation of local governments, including building partnerships with the Consejos Populares, deepening the work with consumers, expansion and downsizing of labor in the themes of gender, monitoring and tracking, and the environmental sphere. All this falls within the re-approach to local development issues in the context of the new priorities of the country, as well as Cuban food security and sovereignty. In short, the institutional model and hegemonic values in Cuban universities contribute to connect university and society and thus to participate in various ways in the innovation system and the goals of sustainability and social inclusion.

Conclusions

Our experience suggests that it is possible for the university to boost technology and social innovation and to make socio-technical adjustments (Dagnino et al. 2004) that incorporate scientific and technological knowledge of varying intensity and novelty. Our experience indicates that:

- University can be a source of relevant knowledge for the development of innovation if it chooses appropriate R&D agendas.
- Socially relevant R&D requires a high academic level.
- Multidisciplinary work is essential.
- Effective networking and cooperation between higher education actors, enterprises, local government, etc. yields important results.
- The evaluation of the results of university science includes not only "peer review" and traditional academic considerations, but must also take into account their social relevance, in order to promote solution to economic and social problems.
- The R&D agendas should be designed to promote the social appropriation of knowledge and its benefits.

- Local development provides good opportunities for social innovation.

However, several factors limit the role of the university in the innovation system.

- As mentioned earlier, a narrow approach to social innovation remains dominant (Cassiolato et al. 2013) and little progress is made in understanding innovation as a systemic, interactive, distributed, social process (Arocena and Sutz 2003).
- There is not an explicit policy that incorporates the set of organizations that contribute to the development of innovation capacities in regions, sectors, and localities.
- The STI policy in Cuba has been embedded in top-down approaches. Definitely innovation for inclusion would benefit from increased social participation.
- The role of the Cuban enterprise system is very limited.
- The inadequate legal and institutional framework and the lack of resources affect the state expenditures devoted to these activities (Nuñez and Montalvo 2013, 2014).
- The import restrictions in Cuba, exacerbated by the U.S. economic embargo, affect the access to necessary inputs. This affects undoubtedly innovation in general and innovation for social inclusion in particular.

As we said before, it is imperative to work on the design of an STI policy that adequately addresses the major economic and social needs of the country. The current changes in Cuban economic model pose questions as regards current STI policies. One is the emergence of new economic actors: cooperatives, small and medium enterprises, foreign enterprises. It is necessary to address the issue of how these new actors should be involved in the innovation system. The STI policy so far has referred mainly to the state sector. Local development has not been emphasized in previous formulations of STI policy. We mentioned the ambition to increase the role of local and regional development indicated in the *Lineamientos*.

This context challenges Cuban universities in a variety of ways. Some of those challenges are:

1. *Challenges from the ongoing changes in the economic and social model.*
   The model assumes that the state and the state property will maintain a leading role. This should allow the presence of an "actor with political force" (Dagnino 2009) for promoting inclusive technology solutions. In the case of the vaccine and in many other health sector initiatives this has been fundamental. It cannot be overlooked, however, that new economic actors are becoming more important. Private property and foreign investment occupy a more prominent place than in the past. This new space for market relations and the decreasing subsidies may affect some groups' access to technologies. This process is observable today in the field of telecommunications (Recio 2013).
2. *Challenges from the implemented STI policies.*
   A comprehensive approach to innovation systems could be more effective than hegemony today. It would be important that sustainable development is adopted as a pillar of economic and social model under construction translated into more sustainable technological demands. A greater emphasis on evaluation

of technologies and technological sovereignty stated in the *Lineamientos* (PCC 2011) would favor this process. It also requires that policies promote further bottom-up initiatives originated in local development demands. We will have to continue to improve the connection between supply and demand of knowledge and technological developments. We need to better link STI policy with other government policies, particularly social policies. It is therefore likely that the traditional form of governance of the system, commissioned to a Ministry of Science and Technology, should change.

3. Those related with the university model and its role in the innovation system.

    The new economic model in construction keeps the public nature of the university. However, it opens the opportunity of commercializing some in-university generated products and services. This strengthens the role of the university in the innovation system and can help improve university's finances allowing greater support for R&D. In particular, we consider these changes as a great opportunity in deepening the role of universities in local development. This will require strengthening the social vocation of Cuban university model, guiding the processes of formation and R&D activities interest in addressing social needs and demands.

4. Those related to access to Higher Education.

    It is necessary to increase the access to higher education in Cuba. The proportion of young people between 18 and 24 who are studying in universities is today only 18 %. This low enrolment ratio, apart from being a source of social inequalities, may in the medium and long term affect the country's ability to produce, disseminate, and use knowledge. Some disciplines are affected by low enrolment. A solution could be to complement university education with other types of higher education institutions (HEIs).

The relative failure of the project of the "universalization of higher education," indeed considered a great innovation in the field of education, is the main cause of this drastic fall in the enrolment. Some claim that it was the poor quality, others the high costs and low and slow promotion rate that were among the main factors leading to this failure. The careers were also concentrated in social sciences and humanities with low economic impact on municipalities.

Once entrance exams were made mandatory for everyone who wanted to study at the university and the previous preferential easy access to municipal universities was eliminated, the enrolments in CUMs diminished. One good attempt to save the CUMs was to promote university careers with more potential impact in the municipality (for example, agricultural engineer, accounting and finance), but with poor success. In addition, it is important to keep in mind that the "universalization of the higher education" in Cuba was a program encouraged by Fidel Castro. Nowadays the program has lost the previous governmental support.

Nonetheless, the experience produced thousands of graduates that now work in the municipalities and the higher education infrastructures and organizations that continue to function as knowledge and innovation management clusters. Probably the best lesson learned is that the universalization of higher education is a suitable goal that should be recovered but with better selection of careers, the promotion of

non-university technique formation, and better selection of the municipalities (avoiding national general centralized implementation). A monitored-controlled dissemination of higher education institutions in municipalities can favor the links between knowledge and development.

References

Andersen, A., & Johnson, B. (Eds.) (2012) *"Globelics thematics report"*. Presented at the Globelics Academy 2012, Río de Janeiro.

Arocena, R., & Sutz, J. (2003). *Subdesarrollo e innovación: Navegando contra el viento*. Madrid: Cambridge University Press y Organización de Estados Iberoamericanos (OEI).

Arocena, R. & Sutz, J. (2009). *Sistemas de innovación e inclusión social*. En: Revista Pensamiento Iberoamericano. Número 5. Innovación y conocimiento. Eulalia Pérez Cedeño y Mario Cimoli (coord.), Madrid. Retrieved from http://www.pensamientoiberoamericano.org/articulos/5/117/3/sistemas de innovación e inclusión social.html.

Arocena, R., & Sutz, J. (2012). Research and innovation policies for social inclusion: Is there an emerging pattern? In H. M. M. Lastres et al. (Eds.), *A nova geração de políticas de desenvolvimento produtivo-sustentabilidade social e ambiental* (pp. 101–113). Brasilia: CNI, BNDES, BID.

Bortagaray, I., & Ordóñez-Matamoros, G. (2012). Innovation, innovation policy, and social inclusion in developing countries. *Review of Policy Research, 29*(669), 669–671.

Brundenius, C. (2002). Cuba: The retreat from entitlement? In C. Abel & C. L. Lewis (Eds.), *Exclusion and engagement: Social policy in Latin America*. London: Institute of Latin American Studies.

Casas, R., De Fuentes, C., Torres, A. & Vera-Cruz, A. O. (2013). Estrategias y gobernanza del Sistema Nacional de Innovación Mexicano: Retos para un desarrollo incluyente. In G. Dutrénit & J. Sutz (Eds.), *Sistemas de Innovación para un Desarrollo Inclusivo: La experiencia latinoamericana* (pp. 35–64). México: Foro Consultivo Científico y Tecnológico, A.C.- LALICS.

Cassiolato, J., Lastres, H. M. M., & Soares, M. C. (2013). Sistema Nacional de Innovación de Brasil: Desafíos para la sostenibilidad y el desarrollo incluyente. In G. Dutrénit, & J. Sutz (Eds.), *Sistemas de innovación para un desarrollo inclusivo. La experiencia latinoamericana* (pp. 65–95). Foro Consultivo Científico y Tecnológico, AC; LALICS, México.

CEPAL. (2010). *Panorama Social de América Latina*. Retrieved from http://www.cepal.org/publicaciones/xml/9/41799/PSE2010-CapIII.pdf.

CIEM. (2004). *Investigación sobre Ciencia, Tecnología y Desarrollo Humano en Cuba, 2003*. UNDP: La Habana

Dagnino, R (2004) A tecnología social e seus desafíos. en A. Lassance et al. (Eds.), *Tecnologia social. Umaestratégia para o desenvolvimento* (pp. 187–209), Rio de Janeiro: Fundação Banco do Brasil.

Dagnino, R (2009). *Tecnologia social: ferramenta para construir outra Sociedade*. Campinas, SP.

Dagnino, R., Cruvinel, F., & Novaes, H. (2004). Sobre o marco analítico-conceitual da tecnologia social. In A. Lassance et al. (Eds.), *Tecnologia social. Uma estratégia para o desenvolvimento*. Rio de Janeiro: Fundação Banco do Brasil.

Dagnino, R., Thomas, H., & Davyt, A. (1996). El pensamiento en ciencia, tecnología y sociedad en Latinoamérica: Una interpretación política de su trayectoria. en *REDES-Revista de Estudios Sociales de la Ciencia*, 3(7).

de Autores, C. (2011). *Evaluación de Impacto del Programa de Innovación Agropecuaria Local de Cuba. Informe Final*. La Habana: Editorial INCA, COSUDE, AAA, UNACH.

Dutrénit, G., & Sutz, J. (Eds.). (2013) *Sistemas de innovación para un desarrollo inclusivo*. Foro Consultivo Científico y Tecnológico, AC; LALICS, México. ISBN:978-607-9217-28-0.

Editorial Board. (2014, October 19). Cuba's Impressive Role on Ebola. *The New York Times*. Retrieved from http://www.nytimes.com/2014/10/20/opinion/cubas-impressive-role-on-ebola.html?_r=0.

Espina, M. (2012). Retos y cambios en la política social. en P. Vidal, & O. Everleny (Eds.), *Miradas a la economía cubana. El proceso de actualización*. La Habana: Editorial Caminos.

Espina, M. (2005) *Políticas de atención a la pobreza y la desigualdad. Examinado el rol del Estado en la experiencia cubana*. Buenos Aires: CLACSO-CROP.

Figueroa Alfonso, G. (2010). Ciencias sociales, retos y debates a inicios de siglo. en *Temas* no. 62–63: 199–209, abril-septiembre de 2010.

Herrera, A. (1973). Los determinantes sociales de la política científica en América Latina. *Desarrollo Económico, 13*(49), 113–134.

IDRC. (2011). *Innovation for inclusive development. Program prospectus for 2011–2016*. IDRC.

INIE, CEPAL. (2004). *Política Social y reformas estructurales: Cuba a principios del siglo XXI*. CEPAL, INIE, UNDP.

Lassance, A., et al. (2004). *Tecnologia social. Uma estratégia para o desenvolvimento*. Rio de Janeiro: Fundação Banco do Brasil.

Martin, R., & Osberg, S. (2007). Social Entrepreneurship the case for definition. *Stanford Social Innovation Review*, 29–39. Spring. Retrieved from www.ssireview.org.

MES. (2014). *Prontuario curso 2013–2014*. Havana: Ministry of Higher Education.

Mulgan, G. (2006). The process of social innovation. *Innovations, 1*(2), 145–162.

Núñez, J., & Figueroa, G. (2014). Biotecnología y Sociedad en Cuba: el caso del Centro de Inmunología Molecular. *TRILOGÍA.CienciaTecnología y Sociedad, 10*, 11–24.

Núñez, J., & Montalvo, L. (2014). Science, technology, and innovation policies and the innovation system in Cuba: Assessment and prospects. In C. Brundenius & R. Torres (Eds.), *No more free lunch. Reflections on the Cuban economic reform process and challenges for transformation*. New York: Springer.

Núñez, J., Montalvo, L. F., Pérez Ones, I., Fernández, A., & García, J. L. (2011a). Cuba: University, innovation and society: Higher education in the national system of innovation. In B. Goransson & C. Brundenius (Eds.), *Universities in transition. The changing role and challenges for academics institutions*. New York: Springer.

Núñez, J. & Sanchez, F. C. (2005). Universidad, innovación y sociedad: Experiencias de la Universidad de La Habana. *Revista de Ciencias da Administraçao, 7*(13), 9–29. Enero-julio, Florianópolis

Núñez, J., Benítez, F., Herná¡ndez, D., & Ferná¡ndez, A. (2008). Universal higher education and sustainable social development: The Cuban model. *The International Journal of Cuban Studies, 1*(1). ISSN 1756-3461 (Print); ISSN 1756–347 (Online).

Núñez, J. & Arriete, L. F. M. (2014). Sience, technology, and innovation policies and the innovation system in Cuba: Assessment and prospect. In C. Brundenius & R. T. Pérez (Eds.), *No more free lunch: Reflections on the Cuban economic reform process and challenges for transformation* (pp. 153–172). New York: Springer.

Núñez, J., Pérez, I., & Montalvo, L. (2011b). Biotechnology, university and scientific and technological policy in Cuba: A look at progress and challenges. In B. Göransson & C. M. Pålsson (Eds.), *Biotechnology and innovation systems. The role of public policy* (pp. 80–107). International Development Research Centre: Ottawa. ISBN 978-1-55250-538-0.

Núñez, J. et al. (2013). Educación superior, innovación y desarrollo local: Experiencias en Cuba. In G. Dutrénit, & J. Sutz (Eds.), *Sistemas de innovación para un desarrollo inclusivo* (pp. 227–252). México: Foro Consultivo Científico y Tecnológico, AC; LALICS. ISBN: 978-607-9217-28-0.

OECD. (2011). *Fostering innovation to address social challenges*. In Workshop Proceedings.

PCC. (2011). *Lineamientos de la política económica y Social del Partido y la Revolución*. Havana: Partido Comunista de Cuba.

Pérez, I., & Núñez, J. (2009). Higher education and socioeconomic development in Cuba: High rewards of a risky high-tech strategy. *Science and Public Policy, 36*(2), 97–101.

Phills, J. A., Deiglmeier, H., & Miller, D.T. (2008). Rediscovering social innovation. *Stanford Social Innovation Review*, Fall 8. Retrieved from http://www.ssireview.org/articles/entry/rediscovering_social_innovation/.

Recio, M. (2013). "La hora de los desconectados. Evaluación del diseño de la política de "acceso social" a Internet en Cuba en un contexto de cambios", Concurso CLACSO-Asdi 2013 "Estudios sobre políticas públicas en América Latina y el Caribe: Ciudadanía, democracia y justicia social".

Reddy, A. (2011). The evolving role of universities in economic development: The case of university-industry linkages. In B. Göransson & C. Brundenius (Eds.), *Universities in transition. The changing role and challenges for academic institutions*. Ottawa: IDRC.

Ríos, H., Blandino, D. V., & Funes-Monzote, F. R. (comp.) (2011). *Innovación agroecológica, adaptación y mitigación del cambio climático*. La Habana: INCA.

Sutz, J. (2010). Ciencia, Tecnología, Innovación e Inclusión Social: una agenda urgente para universidades y políticas. en *Psicología, Conocimiento y Sociedad,* Número 01/Año 2010.

Thomas, H. (2008). Estructuras cerradas vs. Procesos dinámicos: trayectorias y estilos de innovación y cambio tecnológico. en *Actos, actores y artefactos. Sociología de la tecnología*, op. cit.

Thomas, H., Fressoli, M., & Becerra, L. (2012). Science and technology policy and social ex/inclusion: Analyzing opportunities and constraints in Brazil and Argentina. *The Use of Knowledge for Social Inclusion', Science and Public Policy, 39*(5), 579–591.

UNDP. (2001). *Poner el adelanto tecnológico al servicio del desarrollo humano*. México: Ediciones Mundi Prensa.

UNESCO. (2010). *Science Report 2010 The Current Status of Science around the World*. Retrieved from http://unesdoc.unesco.org/images/0018/001899/189958e.pdf.

Zabala Argüelles, M. del C. (comp.) (2014) *Algunas claves para pensar la pobreza en Cuba desde la mirada de jóvenes investigadores*. FLACSO-Centro Félix Varela, Havana.

Chapter 7
Beyond Revolution and Actualization: The Potential for Social Innovation in Cuba's Non-state Enterprise Sector

Annika Voltan, Julia Sagebien, and Ernan Sarmiento

> *The country demands bold, persistent experimentation. It is common sense to take a method and try it: If it fails, admit it frankly and try another. But above all, try something*
>
> *Franklin D. Roosevelt, 1932*[1]
>
> *I was not chosen to be President to restore capitalism to Cuba nor to give up the Revolution. I was chosen to defend, maintain, and continue to perfect socialism, not to destroy it.*
>
> *Raul Castro, 2009*[2]

Abstract This chapter explores examples of, and potential for, social innovation in Cuba's emerging non-state enterprise sector. Due to the inherent socially oriented values of the country, we argue that social enterprises are arising endogenously and merit examination as a potential avenue for simultaneously pursuing social, environmental, and economic outcomes. We contextualize this argument in relevant theoretical perspectives pertaining to social innovation, and in the country's unique historical background, especially as it pertains to the role of enterprise in its socialist system. Cases of social entrepreneurship are presented to illustrate the potential role and impact of social innovation. We provide an overview of available educational opportunities for managers and entrepreneurs and identify a gap in the training of social entrepreneurs. We conclude by presenting a series of recommendations for

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[1] Franklin D. Roosevelt address at Oglethorpe University, May 22, 1932 (Krugman 2015).

[2] Speech by President Raul Castro of Cuba at the National Assembly of the People's Power, 2013 (BBC News 2013).

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policy makers and educational institutions aimed at promoting the values and skills required to foster social entrepreneurship and other forms of social innovation.

Keywords Cuba • Social innovation • Social entrepreneurship • Non-state sector • Cooperatives

Introduction

"May you live in interesting times" is a Chinese proverb—some say a curse—that aptly reflects the Zeitgeist of the presidencies of Franklin Delano Roosevelt (FDR) of the USA and Raul Castro of Cuba. Though it may seem incongruous at first, the presidencies of these two men have more in common than it appears. In both the USA of the Depression era and present-day Cuba, progressively worsening economic conditions presented challenges to the preservation of the very foundations of the sociopolitical order of each country. Pragmatism, leadership vision and courage were needed to overcome these challenges. Both Roosevelt and Castro led national-level social innovations characterized by a strong commitment to fundamental national values and a willingness to try new things at all levels of social organization. Each proposed and implemented (and in the case of Castro, the process is ongoing) changes in the management of the economy that radically altered the nature of the status quo. FDR's administration unleashed dynamics that moved American capitalism away from laissez-faire policies and towards a more interventionist Keynesian model. Raul Castro diverted Cuba away from a Soviet-style planned economy reliant on state enterprises towards an economic landscape where non-state enterprises (from micro-enterprises to cooperatives, to 100 % foreign-owned companies) and free market price mechanisms are progressively gaining ground. In both the USA of the Depression era and present-day Cuba, innovative national-level social experiments have combined a strong commitment to fundamental national values with a willingness to try new things at all levels of social organization.

In the case of Cuba, President Raul Castro's continuing national-level social innovations have been book-ended by the aforementioned commitment to fundamental values (i.e., socialism) and by a willingness to try once unimaginable market-oriented strategies. Notably, within these state-established parameters, an extraordinary rate of social innovation is also taking place at individual levels of social organization. For example, entrepreneurs and cooperativists are taking advantage of the business opportunities available in the newly expanded non-state sector while at the same time becoming social innovators themselves by creating social enterprises with triple bottom-line objectives. Moreover, they are doing so endogenously and despite the absence of a formal discourse on the role of social innovation and of social enterprise in Cuba's economic development framework or academic or policy debates.

This chapter explores the emerging social innovations led by individual entrepreneurs and cooperative members within Cuba's non-state enterprise sector as framed

by Raul Castro's national-level set of social innovations. We argue that the concepts of social innovation in general and social entrepreneurship in particular have relevance to the debates over Cuba's emerging development framework for three primary reasons. Firstly, social enterprises are arising endogenously as a result of the confluence of new entrepreneurial opportunity and traditional socialist ethos. Acknowledging and leveraging these developments through proactive policies can deliver not only a greater rate of entrepreneurial success and thus greater tax revenue for the state, but it can also directly benefit society a large. In other words, how the national-level social innovations can be best synchronized with the enterprise-level social innovations in order to deliver optimum societal level results. Secondly, the market dynamics being unleashed both through internal liberalization and by new pressures to open sectors of the economy to foreign investors and trade (i.e., the end of the US embargo on Cuba) will require a development framework that more explicitly addresses how enterprises themselves can be part of not only economic progress, but of social and environmental progress as well. Lastly, the resource constraints facing the Cuban Government necessitate the inclusion of new partners in the protection of the social welfare gains of the Revolution. Cuban social innovators, with their concern for both the generation of wealth through enterprise and the preservation and advancement of the social and environmental gains of the Revolution, are indeed the perfect candidates for such a partnership. Cuban social enterprises could benefit greatly from the international networks designed to support the establishment and growth of social entrepreneurs through knowledge-sharing programs, provision of capital, and supply chain market links.

We contextualize our arguments by positioning the Cuban case within the literature on social innovation and social entrepreneurship and by providing a historical overview of the role of the enterprise sector within Cuba's revolutionary trajectory. From here, we move to examples of social innovation in Cuba—and of the individual social entrepreneurs—key to their formation and success.

Following these cases, we explore approaches to training social entrepreneurs by first describing programs available to Cuban managers and entrepreneurs on the business side of the equation, and then presenting how new specialized learning frameworks are evolving that can embed social innovation into the enterprise culture. We caution those working in the Cuban context to be conscientious of four main obstacles to social enterprise development: a conceptual gap, ideological resistance, agency issues, and bureaucratic/institutional issues that represent barriers to change. Finally, we conclude by providing three recommendations: (1) inclusion of Inclusive Market Development (IMD) frameworks in official development policies, as a means to foster a prosperous and inclusive approach to a socialism within a market context; (2) adoption of blended value frameworks for educating Cuban social entrepreneurs; and (3) generation of research by teams consisting of national and international researchers that takes advantage of the unique opportunity provided by the Cuban context to extend beyond the analysis of microeconomic and personal factors for social entrepreneurship, to include the impact of institutional and sociopolitical factors affecting social enterprise formation and success.

Theoretical Framework of Social Innovation and Social Enterprise

The following section represents an overview of the relevant academic literature pertaining to social innovation, social enterprise, and related concepts germane to our exploration of the Cuban phenomenon—namely social entrepreneurship, embeddedness, social bricolage,[3] and blended value. As acknowledged in our introduction, these concepts are not presently explicit in the official Cuban development discourse, but we argue for their relevance nonetheless because social enterprise-like businesses and projects are endogenously arising in this milieu. Previous work (Sagebien and Betancourt 2014) has pointed to *Social and Solidarity Economies* (SSE) and the *Socially Responsible Enterprises* (SREs) that comprise them as a particularly "useful reference point for Cuba's quest to find a development model that blends socialist values with market dynamics" (p. 194). Subsequent work by Sagebien and Leenson (2015) documented a number of these social enterprises. We build on this work by applying the added lenses of social innovation and a more detailed look at the historical, policy, ideological, and institutional contexts where these social enterprises have arisen.

Social Innovation

In its simplest terms, "social innovation" constitutes "new ideas that meet unmet needs" (Mulgan et al. 2007:4). Other, more complex definitions have been developed to describe it in greater detail, but consensus has yet to be reached about how it should be defined and what concepts should be used (Goldenberg et al. 2009). We have opted not to engage in this debate, and have chosen instead to accept the description offered by the *Stanford Social Innovation Review*: "A novel solution to a social problem that is more effective, efficient, sustainable, or just than existing solutions and for which the value created accrues primarily to society as a whole rather than private individuals" (Phills et al. 2008:36). At its core, social innovation intends to address social and economic issues and impacts the formation of new social relations, and relationships between social and economic development (Neamtan and Downing 2005). The main difference between social and technical innovations lies in the fact that in the former, the innovation takes place at the level of social practice; in the latter, the medium is technological (Howaldt et al. 2010). One does not intend to replace or overshadow the other—instead, social innovation can be used to stimulate technical innovations aimed at addressing social problems. This is further emphasized by Núñez et al. (2016) in their discussion of the social orientation of Cuban science, technology, and innovation policy.

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[3] A nuanced conception of bricolage (the ability to make do with limited resources) that has been specifically adapted to the context of social enterprises and includes the additional constructs of social value creation, stakeholder participation, and persuasion (Di Domenico et al. 2010).

In mainstream literature, "social innovation" has been used to denote the ideas, processes, and behavioral changes aimed at improving social conditions, while "social entrepreneurs" have been seen as the agents who conceive of and implement these. The term has struck a chord with researchers and those interested in making a more explicit link between business and society—perhaps due in part to the fact that powerful political leaders have endorsed it in business, philanthropic, and celebrity communities (Mair 2010).

Social Entrepreneurs and Enterprise

Like social innovation, social entrepreneurs and the concept of "social entrepreneurship" are understood in different ways. While rooted in the capitalist notion of market opportunity and entrepreneurship and often contrasted with the traditional, profit-driven entrepreneur (Dees 2007, 1998; Martin and Osberg 2007), "social entrepreneurship" characterizes the individuals who are driven by a social mission and who connect people and build networks (Westley et al. 2011). Seelos et al. (2011) define social entrepreneurship as "entrepreneurial activities with the aim of building organizations that achieve social goals" (p. 3), regardless of whether those organizations adopt a for-profit or not-for-profit legal form. The term social entrepreneurship is generally linked, and often equated with the term, "social enterprise" (Peredo and McLean 2006)—where "enterprise" can refer to both activities and organizations. Social enterprise (and therefore social entrepreneurship) is also understood in different ways and has been used as an umbrella for a variety of organizations including social ventures—for-profit businesses that create benefits through the products and services they produce; entrepreneurial non-profit organizations—aimed at creating income to support the work of a not-for-profit organization; and as organizations following principles of cooperatives (Mair 2010).

The goals inherent to social entrepreneurs and enterprises typically necessitate a commitment to deviate from the status quo. Dees (1998) identifies five points to describe how social entrepreneurs play the role of change agents. These are: "adopting a mission to create and sustain social value (not just private value); recognizing and relentlessly pursuing new opportunities to serve that mission; engaging in a process of continuous innovation, adaptation, and learning; acting boldly without being limited by resources currently in hand; and, exhibiting heightened accountability to the constituencies served and for the outcomes created" (p. 4).

In addition to acting as change agents (Phillips et al. 2015), social entrepreneurs are driven to increase social capital and enhance community cohesion, and often operate in resource-constrained environments—pushing them to be more innovative in how they use existing resources and access new ones (Di Domenico et al. 2010). Bricolage characteristics in commercial entrepreneurship speak to how entrepreneurs thrive despite resource constraints by making do with resources at hand, recombining resources for new purposes (improvisation), and refusing to accept limitations (Baker and Nelson 2005). The concept has been extended to the notion

of "social bricolage," which emphasizes social value creation, stakeholder participation, and persuasion techniques to describe how social entrepreneurs affect change with limited resources (Di Domenico et al. 2010).

Sociopolitical contexts have important implications for the emergence of social entrepreneurship (Griffiths et al. 2013). Seelos et al. (2011) identify three main contexts in capitalist markets where social entrepreneurship takes place: the liberal economy (driven by the market mechanism), the cooperative economy (where the state role in wealth redistribution and regulation is more pronounced and not to be confused with the cooperative organizational structure or a "social and solidarity economy" based on the aggregate economic effect of cooperatives), and the informal economy (where affiliation to social groups is a determinant of wealth creation and distribution, and justice). This typology helps to consider the roles and power of governments versus markets in understanding how social entrepreneurship manifests itself and the boundaries within which it operates. We will explore this notion further in the proceeding section on the historical context in Cuba and its effects on non-state enterprise.

Embeddedness

Large-scale economic development programs are being increasingly questioned in terms of how they "overly privilege western style institutions, practices, and reliance on free markets, without paying adequate attention and respect to the local institutions (…) and fail to address the root causes of the social ills they aim to address" (Seelos et al. 2011:1). In response to this tendency to impose ideologies and failure to adequately engage local populations, a focus on the embeddedness of social entrepreneurship is bringing light to the importance of context-specific activities and innovations, and the notion that the "opportunity space" for them is defined by local social, economic, and political arrangements (Seelos et al. 2011). This thinking is embraced by the notion of "local development" gaining traction in Cuba, and which we explore in more depth later in this chapter.

By embedding themselves in local communities and establishing "place-based enterprises" (Shrivastava and Kennelly 2013), social entrepreneurs gain access to specialized knowledge regarding the rules of the game and become connected to the local structure (Jack and Anderson 2002). Social entrepreneurs and enterprises driving innovations fill the key roles in learning processes needed for "providing leadership, building trust, developing visions, and sense-making" (Westley et al. 2011:771). They are "grassroots" innovators, generating "solutions that respond to the local situation and the interests and values of the communities involved" (Seyfang and Smith 2007:585), and offer an alternative or complementary infrastructures to the existing structures and systems. Social entrepreneurs and enterprises are thus increasingly being considered more seriously as contributors to economic and social progress, given their ability to access communities and customize services in ways that government programs cannot (Dees 2007).

Blended Value

Blended value (Emerson 2003) argues against positioning the financial and social impacts of organizations as trade-offs, and instead advocates for approaches to value creation that prioritize benefits from each. Related concepts such as "shared value" (Dembek et al. 2015; Porter and Kramer 2011) are rising in popularity and call for a role for private enterprise in addressing social issues. Kickul et al. (2012) propose a pedagogical model for social entrepreneurs based on the blended value approach. The model differentiates between traditional approaches to business education in order to foster skill building in required areas for social entrepreneurs to flourish—i.e., social innovation, financial sustainability, scalability, and social impact.

Application in the Cuban Context

Since the Revolution, Cuba has exhibited an ability to be socially innovative at the national level as it has transited through several eras of profound change requiring novel solutions to social problems in ways that accrue value to society as a whole (Phills et al. 2008). Moreover, these eras have addressed social and economic issues, impacted the formation of new social relations, and contributed to relationships between social and economic development (Neamtan and Downing 2005). Despite the interchangeability of social innovation and enterprise that often appears in mainstream literature, it is important to distinguish between these terms in the Cuban context, given the historical predominance of the state-owned enterprise sector and the recent emergence of non-state social enterprises.

Despite the fact that many of the individuals in Cuba who own or operate what could be called social enterprises do so within a largely state-run and state-owned socialist economy, they exhibit the characteristics of embeddedness and social bricolage associated with social entrepreneurship. This is evident in the fact that their innovations and activities are heavily context based, and their targeted social impacts are localized. A recent article published in The Huffington Post refers to Cubans as a people for whom the term "resolver" has become a way of life, meaning they have to improvise solutions based on scarce resources (Herrero 2015)—precisely the meaning of bricolage. The same article emphasizes the importance of this engrained mindset and ability as something to celebrate and study, to better understand how to do more with less. Herrero highlights six ways in which Cuban examples offer rich case studies: they seek opportunity in adversity; they do more with less; they think and act flexibly; they keep it simple; they include the margin; and they follow their hearts. The social innovators we introduce in this chapter are adding value to the communities where they live, have developed strong personal networks, and make do with the resources at hand.

The Historical Context: The Evolving Role of Non-state Enterprise in Cuba

The following section provides a brief overview of key historical markers and policies that have influenced the presence and evolution of Cuba's non-state enterprise sector. This history has been well documented by others (Brundenius and Torres Pérez 2014; Ritter and Henken 2014) and we point readers to these sources for a more in-depth record of Cuba's economic and policy history. Our intent here is to illustrate at a high level the factors that have created the context for emerging social enterprises, and the base from which we propose to move forward and reframe. This summary, though redundant for Cubanologists, is of special importance for social innovation/social enterprise scholars who are, most likely not, familiar with Cuba's enterprise-related historical policy context. Regardless of the reader's familiarity with Cuban history, it is important to consider the sociopolitical, economic, and cultural determinants of macro-level environments for social entrepreneurship activity (Griffiths et al. 2013).

The Revolution and Its Effects on Cuban Enterprise: 1959–1989

Fidel Castro's rise to power in 1959 marked the Cuban revolutionary period and the transition towards a state socialist economy. Prior to 1959, the Cuban economy consisted of a heterogeneous mix of micro, small, medium, and large enterprises, both locally and internationally owned (Ritter and Henken 2014). Starting in 1959 with the triumph of the Revolution, accelerating in pace from 1961 onwards when Fidel Castro formally declared Cuba a socialist republic and tapering off by 1963 when the nationalization campaign had achieved its major objectives, all large enterprises (a significant number of them US owned) and most medium-sized enterprises (both foreign and Cuban owned) were nationalized. A number of official policies pertaining to privately owned enterprise were further applied during the 1960s that moved towards increasing centralization of the production apparatus. In 1960, 52 % of Cuban property was state owned, a figure that rose to 75 % in 1963 and finally reached 100 % in 1968 (Everleny 2008). In March and April 1968, President Castro took the next step towards Communism by instituting the "Revolutionary Offensive," which banned self-employment and confiscated between 55,000 and 58,000 small, privately owned enterprises (Ritter and Henken 2014).

Between the 1970s and the 1990s, Cuba negotiated a series of economic arrangements with the Soviet Bloc aimed at strengthening its economic base, as well as shoring up its Revolutionary rhetoric. This period marked the establishment of a range of finance, trade, and aid agreements, and "Cuba's development became deeply intertwined with—even dependent on—that of the Soviet Bloc" (Ritter and Henken 2014:63). Cuba benefitted substantially from these arrangements not only because of Soviet largesse, but also because these arrangements allowed the island's rulers, as well as its inhabitants, to experience some relief from the economic stranglehold imposed on it by the US embargo and its "regime change" policies.

During this time of increasing Soviet cooperation, some small enterprises in prescribed sectors were allowed to operate again. An informal, underground economy also began to build momentum that consisted in large part of home-based and part-time activities—"in short, citizens in their everyday material lives had to behave in an entrepreneurial manner" (Ritter 2014:111). This extraordinarily creative knack for solving complex problems under difficult conditions and with the most unlikely but actually workable solutions is known colloquially as "resolver" (to solve). As documented in a subsequent section of this chapter, this attitude has provided a fertile ground for social entrepreneurs.

Another important reform on April 5, 1980, permitted the *Mercados Libres de Campesinos* (MLCs), allowing private farmers to set up retail agricultural markets (Ritter and Henken 2014). Although politically motivated, they also served the purpose of addressing domestic food shortages, but were fraught with issues and failed to exist after 1982. However, during this period, Cuba also saw the establishment of new cooperatives in agriculture (CPAs), which still exist today and provide a potential foundation for social enterprise.

During this period of enterprise nationalization, Cuba also implemented a series of notable socially innovative public policies, particularly in the context of health and education. Despite the accrual of some social benefits during this period and experimentation with new organizational models, overall the non-state enterprise sector was suppressed. As a result, there was greater reliance on underground activities and a "general downward pressure on real living standards, even as other factors such as improved education and health were benefitting them" (Ritter and Henken 2014:73).

The "Special Period" and Beyond: 1990–2010

By 1989, 85 % of Cuba's commercial activity was concentrated within the economic organization of the Soviet Bloc known as the Council for Mutual Economic Assistance (Comecon). The downfall of the Soviet Union and the dismemberment of the Comecon's market arrangements resulted in a dizzying crash for the Cuban economy. Between 1989 and 1993, Cuba's GDP shrunk by 35 % (The Economist 2012).

This "Special Period in the time of peace," as it was called, ushered in a new era of debate on the role of market forces and non-state forms of property in the Cuban economy. Carranza, Monreal, and Gutierrez (1995) contributed greatly to the debate by questioning reliance on centralized planning at any price due to its negative effects on the flexibility and operational capacity of the economy—preventing long-term vision and ultimately resulting in inequalities. Furthermore, they argued that "the feasibility of socialism in Cuba imposes the need for a fundamental economic restructuring that presents significant changes to the basic structures of the current economic system, without alienating its socialist essence" (pp. 28–30).

To battle Cuba's way out of the Special Period, Fidel Castro also opened the island to foreign investment and mass tourism with Spanish and Canadian businesses leading the charge (The Economist 2012). Over time, Venezuela began supplying Cuba with cheap oil, in exchange for approximately 20,000 Cuban doctors,

sports instructors, and security advisors, and China became another new source of credit (The Economist 2012).

In 1993, opportunities for small business were opened in defined sectors. By 1995, agricultural markets similar to MLCs had been reestablished and *paladares*, or home-based restaurants were permitted (Ritter and Henken 2014). The sector peaked in 1996 at 209,000 *cuentapropistas* (self-employed individuals) operating in the permitted areas (Peters 2012).

Between 1996 and 2000, a shift in government policy took place that stigmatized self-employment and raised taxes for entrepreneurs such as the *paladares*. At the same time, new business approvals also declined dramatically. This trend continued through the first decade of the twenty-first century. Many small businesses were closed a few years later. By 2000, nonagricultural self-employment had reached 4 % of total employment (Ritter and Henken 2014:89), but by 2010 it had decreased again to 3 % (Brundenius and Le Dang 2014:143). Academics and bureaucrats who had argued for these market-oriented reforms found themselves at very difficult odds with the central government, and private entrepreneurs were, once again, stigmatized.

In the early 2000s, central planning authorities faced challenges in addressing regional economic disparities, gathering local information, and delivering programs with sufficient funding and support. These challenges led to increased emphasis on local development strategies. Increased authority was handed to municipalities to develop these local, community-based strategies. Cuba's CEDEL, or Local Development Centre, was founded with a mission to develop and promote research and programs dedicated to economic, social, and environmental initiatives at the municipal level (Alternatives 2015). In order to foster these initiatives, partnerships between state programs and international organizations such as the UNDP, Oxfam, and CARE Canada were created.

When Raul Castro took over in 2008 (following a 2-year interim term) he was faced with a deteriorating economy that was failing to produce goods and services at the levels needed and a bloated, inefficient, outdated, and underfinanced state sector. He moved forward with a process of "analysis, debate, and reform in economic policy that (…) is more consequential than any economic policy change in Cuba since the early 1990s" (Peters 2012:7). This process, which we explore in the next subsection, paved the way for a new round of market-oriented reforms and for the reemergence of the small entrepreneurial sector.

The Lineamientos and the Actualization of the Cuban Economy: 2011–Present

In 2011 the Cuban Government approved a blueprint for "updating" or "actualizing" its socialist state-centered economy. The *Guidelines of the Economic and Social Policy of the Party and the Revolution* approved in the VI Congress of the Communist Party of Cuba (PCC) (Communist Party of Cuba 2011), commonly

referred to as the *Lineamientos*, propose to renew the country's economic growth through a number of economic liberalization strategies. Though the scope of these guidelines is limited compared with market-based reforms in many other countries during the 1990s (Sagebien and Leenson 2015), they are particularly important for Cuba as they represent a support base for launching a reorganization of the economy (Brundenius and Torres Pérez 2014). Most notably for the non-state sector, the *Lineamientos* include the introduction of new economic actors and "forms of property" in a narrow range of state-designated sectors—mainly privately owned cooperatives, small enterprises, and self-employment opportunities. They also legalize private commercial exchanges in areas such as real estate and automobiles and create an enabling environment for the new forms of property and exchange (e.g., credit, wholesale markets, legal frameworks). Of relevance for Cuban enterprise more broadly are measures leading to greater managerial flexibility and market orientation for large state-sector enterprises, and attraction of foreign direct investment, mostly in the form of joint ventures with state-sector enterprises (many of which are concentrated in the industrial zone in the Port of Mariel west of Havana).

The Cuban state's distrust towards private property and capital accumulation that has characterized revolutionary ideology, rhetoric, and policies for over half a century can still be sensed in the era of the *Lineamientos*. Use of the term "non-state" rather than "private" sector perpetuates the positioning of entrepreneurial endeavors as "the other." Framing progress in terms of the "actualization" of the economy rather than the "transition" or "reform" differentiates Cuba from the market liberalization terminology of the former Soviet countries and the Latin American neoliberal reforms of the 1990s (code for the "Washington Consensus" policies). Finally, rather than referencing the notion of micro and small businesses, Cubans refer to the "self-employed" or *cuentapropistas* even when the organization employs dozens of workers.

A number of measures have been put into effect as support for the market dynamics unleashed by the *Lineamientos*. Ritter (2014) summarizes major public policy areas for micro-enterprises that have been, or are in the process of being, implemented (p. 126) to achieve the goal of generating 1.8 million new jobs from this sector by the end of 2015. According to Jorge Dominguez, the pre-eminent US-based scholar on all matters Cuban:

> In a population just shy of 11.2 million, there are over 500,000 people who have self-employment licenses, according to President Raúl Castro's report to Cuba's National Assembly in July 2015. The rule of thumb among Cuban scholars who study this is for any one license there are on average four lawfully-hired employees. That would amount to over two million people in the self-employment sector. One reason why the average number of employees is four is because, once you reach five or more employees, your tax rate goes up (Dominguez 2015).

Quoting a report from the Cuban Ministry of Labor and Social Security (MLSS), Ritter (2015) further notes that of the 504,613 self-employed Cubans, 17 % combine their private-sector work with a government job; there are 155,605 young people and 154,756 women among people with a license to practice an occupation on their own. In addition, there are some and 62,043 retired people who have chosen to

reenter working life through this non-state form of employment. The report also reveals that the provinces of Havana, Matanzas, Villa Clara, Camaguey, Holguin, and Santiago de Cuba lead the rest of the country, accounting for 66 % of workers engaged in self-employment.

As was the case during the time of increased self-employment during the Special Period, the most common activities for entrepreneurs remain making and selling food, transport of cargo and passengers, and rentals of housing, rooms, and spaces. While that goal of 1.8 million jobs looms remotely, some progress has been achieved through the liberalization of licensing for small enterprises and cessation of stigmatizing media and political campaigns. Other changes are under way including raising the limit on number of employees, providing access to wholesale market inputs and imported inputs, and legalizing markets for housing, automobiles, and durables (Ritter 2014).

Social Innovation in the Cuban Non-state Enterprise Sector

Increased levels of commercial activity often bring unwanted side effects such as pollution and social inequality. Cuba's leaders are acutely aware of the dark underside of economic change and of the political pressure on the socialist state that social inequalities would create. Unfortunately, the Cuban state lacks the resources to fuel significant levels of economic growth, as well as to redress the negative externalities that would result from it. Moreover, while many state-sector managers are, in principle, fully on board with the socially responsible mandate that a socialist enterprise implicitly has, the fact that organizations must cope with overwhelming odds (e.g., obtuse central-planning mandates, stifling bureaucracy, outdated infrastructure and technology, low productivity, limited authority to hire and fire employees, and a distorted customer demand structure along with the expectation that they will turn a profit) makes the pursuit of corporate social responsibility (CSR)-type strategies truly quixotic. Even if they intended to include external stakeholders in their business model, state-sector managers are barred from engaging with them in the kinds of efforts (e.g., education and health projects) that are a mainstay of CSR activity in capitalist countries. In sum, the Cuban state faces enormous limitations in its capacity to act as the provider of universal social welfare services, as well as in its capacity to produce goods and services. Foreign direct investment partners could operate as social enterprises through community investments and value chain strategies; however, to date, the Cuban state has limited corporate-external stakeholder relations and has paradoxically maintained Friedman's contention that the social responsibility of business is the generation of profit (Friedman 1970) within the parameters defined by the legal and taxation frameworks.

Nevertheless, in measured but far-reaching ways, the Cuban Government is opening up spaces for non-state-sector business enterprises and within this entrepreneurial milieu, a number of social enterprises. Cooperatives appear to be most likely to adopt socially responsible and innovative behaviors for a number of reasons.

First, because the solidarity exigencies of the cooperative model itself are generally in alignment with the principles of social responsibility; and second, they tend to be larger, better funded, and more business savvy than small-scale entrepreneurial ventures, and are being given preferential treatment by the state, which is enabling their growth in terms of revenue and employment. The next subsection will highlight a number of socially responsible cooperative and individual enterprises.

Case Studies

Existing studies of non-state-sector social innovation and social entrepreneurship in the Cuban context are limited given the country's traditional reliance on state property and central planning and the newness of the "private" (non-state) enterprise sector. To the author's knowledge, only Betancourt and Sagebien (2013), Sagebien and Betancourt (2014), Sagebien and Leenson (2015), and the documentary "Razones" (Vila 2013) have documented this phenomenon. In this section, we highlight some of the examples from this work and several others.

Social Enterprises

Given the aforementioned state control of the economy, the severity of the Special Period, and the key role of the tourism sector in the country's economic recovery, it is no surprise that a state agency in a prime tourism area—the Office of the Historian of the City of Havana—was the change agent that planted the seed of social entrepreneurship in Cuba. Under the leadership of Eusebio Leal Spengler, the Office developed an approach to preserving the cultural, architectural, and social heritage of Old Havana that unleashed a substantial entrepreneurial spirit while also promoting social solidarity and environmental protection.

One of these private individual social entrepreneurs is Gilberto "Papito" Valladares. His enterprise, ArteCorte, encompasses a hair salon/barbershop business, a museum that honors the profession of haircutting in Cuba, and a school for teaching that profession to young people. Valladares also invested a portion of the profits generated by his business in various neighborhood improvements. Similarly, the restaurant "La Moneda Cubana" sponsors a community project that teaches gastronomic skills to local unemployed teenagers and finds jobs for graduates.

Two projects in the province of Pinar del Rio, east of Havana, also show how state-sector economic, social, and cultural projects are morphing into social enterprises as new spaces for private initiative being provided to citizens. A now private project, *The Local Development Cultural Project "Fidias,"* arose in the 1990s as part of a state-sponsored local development scheme associated with the Cuban Fund of Cultural Assets (BFC) (EcuRed). The project directed by Pedro Alberto Luaces Torres, an artist and self-employed worker, is dedicated to the restoration, produc-

tion, and creation of local works of art. The project has become a significant contributor to economic growth and social well-being, and the efforts of volunteer craftsmen, painters, welders, and builders associated with the project are visible in the main architectural structures of the province, as well as in several eateries. The project has a learning center, an art gallery, and a theme park, and promotes artistic professions among children and young adults through workshops in carpentry, ceramics, foundry, marble sculptures, cement, paint, iron works, wood, and restoration, both in works of art and in heritage properties.

The *"Patio de Pelegrín"* (EcuRed) sociocultural project founded in 2002 in the Popular Council of "Puerta de Golpe" is an example of a social innovation that has morphed form a purely state project to a hybrid one that has managed to activate socioeconomic actors at the community level. It was established under the leadership of art instructor and cultural promoter Mario Pelegrín Pozo and focuses on the development of cultural and artistic events that aim to rescue and revitalize the popular and cultural traditions of the community. This cultural-entrepreneurial project has three fundamental lines of work: (1) the conservation and preservation of local traditions and culture stimulated through local participation; (2) environmental education and promotion of "green" values; and (3) the production of goods and services such as processed fruits and vegetables that are made available at the project's mini factory and eco-restaurant as a means to financially sustain the project's activities.

Cooperatives

The cooperative model is not new to Cuba, but has traditionally been limited to the agricultural sector and has had very strong managerial and operational ties to the state sector and to state planning.[4] The *Lineamientos*, however, approved the formation of new autonomous cooperative enterprises in a number of designated nonagricultural sectors. They include "converted cooperatives" (formed by former state enterprise workers) and "new cooperatives" (formed by private individuals). Both types are developing with the characteristics of social enterprise.

Cooptex is an example of a converted cooperative that prioritizes social returns for its members and the broader community. This textile cooperative is currently experimenting with practices that allow some of its member seamstresses to work

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[4] According to Nova (2011), in Cuba there have traditional been three types of agricultural cooperatives: (1) the *Credit and Service Cooperatives (CCS)* arose out of voluntary associations between farmers wishing to benefit from the land reform policies promulgated by the state while at the same time maintaining ownership of their lands; (2) the *Agricultural Production Cooperatives (CPA)* were formed by farmer-landowners who sold their land to the state and associated their means of production through a cooperative structure; (3) the *Basic Units of Cooperative Production (UBPC)* arose out of the subdivision of large agricultural state enterprises owning large tracts of land and possessing considerable resources. UBPC members were given land under conditions of permanent usufruct without payment and were provided with repayable soft loans. These three types of agricultural cooperatives have possessed different degrees of managerial autonomy at different times. Nevertheless, they all have operated within well-defined and enforced state parameters.

from home so that they can meet their family responsibilities. It is also exploring ways to produce not only high-margin highly marketable goods, but also inexpensive goods for pensioners and other lower income populations. Similarly, the *Cooperativa Sagebien* provides professional preservation and reconstruction services for the architectural patrimony of the city of Matanzas, and creates opportunities for aspiring young artisans and restorers of stained glass, murals, ironwork, furniture, and other antique items. On a national level, the *Cooperativa Scenius*, founded by three self-employed bookkeepers, provides accounting services throughout the island not only to private entities, but also to public institutions. As part of its contribution to social responsibility, *Scenius* also provides education on the management of cooperatives to many of the new fledging cooperatives.

A number of agricultural cooperatives are also taking advantage of greater managerial autonomy and expanding market opportunities in order to broaden their entrepreneurial scope while at the same time developing new ways to meet the social needs of their members and their communities. Two examples are from the province of Artemisa in western Cuba. Each is engaging in dynamic grassroots social innovation processes with a triple-bottom-line approach. The UBPC *El Mango* was created in 1998 through the voluntary association of 12 individuals. Its original objective was to produce pork on ten hectares of land; however, with the opening of new spaces for private enterprise, an opportunity to diversify was presented. The cooperative's capacity to socially innovate is evidenced by its ability to offer new products while maintaining a commitment to the well-being of its workers and the surrounding community. For example, by 2014, *El Mango* was producing a variety of other animal-based food products, as well as fruits, vegetables, and animal feed, and had grown to 75 members and 22 laborers contracted to tend to 101 ha of land. The resulting financial returns allowed for annual profits to be shared among the cooperative partners, as well as for social and economic development projects benefiting. Their social programs and benefits include the construction of housing for the cooperative's partners, training and education, job creation, and the provision of services to community members and vulnerable groups (e.g., the creation of a "ranch" for cultural and gastronomic activities and training that include community children and youth).

Similarly, the CPA *Camilo Cienfuegos*, founded in 1980 for the purpose of producing sugarcane, has been able to progressively diversify production to include rice, milk, and freshwater fish. The social programs and benefits offered by the cooperative include housing for workers and their families, a social club for members and the community, and a club for retirees. In 2014, the group allocated a portion of its budget to assisting the local elementary school, and provided daily lunches to more than 50 students and 20 workers at this facility.

Traditional Learning Environments for Cuban Managers

The majority of existing, mainstream literature on the challenges for creating effective learning environments for the growth of social enterprise generally assumes a context with some form of active market economy; large and heterogeneous private

enterprise sectors; governments that foster (or at least do not thwart) private initiatives; citizens that can act as independent economic agents and have access to business inputs (e.g., microcredit, wholesale goods) and knowledge; and where the development of a social enterprise ecosystem is possible with the guidance and financing of international agencies. To date these factors are all lacking in Cuba.

Our starting point for understanding how to meet this challenge in Cuba is to deconstruct the term *learning environments for social enterprise*. Given ideological complexities of the term *enterprise* and the predominance of state-led enterprise over the past 55 years, we begin by examining the university- and nonuniversity-based learning environments offered to state managers since the special period. We then move to an overview of various university- and nonuniversity-based learning environments that have traditionally informed the management of non-state enterprises such as cooperatives and more recently that of *cuentapropistas*. Finally, we explore a number of nonuniversity programs and initiatives that we consider precursors to the creation of specialized learning environments for *social* enterprise.

State-Sector Managers

Prior to 1989, managers of Cuban state enterprises were considered relatively successful if they managed to meet the production targets set by state planning agencies and remained faithful in their ideological commitment to the Revolution. With the introduction of economic policies enacted to combat the economic collapse and shortages of the Special Period, Cuban state managers found themselves facing the vagaries and exigencies of market dynamics in a number of sectors (i.e., tourism, mining), as well as higher performance expectations. In order to devise business strategies that could deliver operational efficiencies, develop international price and marketing strategies that were competitive in growing domestic and global markets, and position Cuba as an attractive FDI destination—these managers required executive business education.

The idea of a *Sistema de Perfeccionamiento Empresarial*, or system of enterprise improvement, began to take shape within the armed forces in the late 1980s when it became clear that Cuba's subsidies and preferential trading agreements were imperiled by the eminent collapse of the Soviet bloc. However, it was not until the 1990s that these principles were applied widely. *Perfeccionamiento Empresarial* began as an experiment within the Revolutionary Armed Forces and its affiliated businesses, and later expanded to include other state enterprises. Access to this MBA-type training program, however, was limited by its nearly impossible-to-meet participation criteria: (1) being profitable, (2) following certified accounting procedures, (3) having secure access to inputs and raw materials, and (4) having a strong market base. To help facilitate the success of program participants, managers were allowed much greater autonomy in areas such as hiring, salaries, and benefits. However, they continued to face restrictions regarding essential business decisions such as the reinvestment of profits, cost and price control, and access to consumers. Though the

program would eventually be discontinued, it established the value and benefits of advanced executive training. The management education mantle was, instead, taken up by Cuban state-run universities. Across the country, a number of universities began to offer degrees in management. For example, the Instituto Superior Politécnico José Antonio Echeverría (CUJAE) offers a number of programs in management at various levels of instruction. However, according to Herrero (2015) the state does not offer courses in business administration in a manner comparable to competitive Bachelor of Commerce or MBA programs, nor has it allowed the non-state sector to open private programs to fill the educational gap.

In the mid-1990s, a great need for well-trained executives to run joint-venture enterprises with foreign firms as well as Cuba-owned international venture with international markets (tourism, nickel, tobacco, biomedical products, rum, etc.) arose. As a result, executive business education programs began to emerge in the form of partnerships between international universities, foreign aid programs, and Cuban academic and state entities (e.g., Ministry of Education, Ministry of Economics and Planning, University of Havana). Two notable examples of such partnerships are the *Diplomado Europeo en Administración y Dirección de Empresas* (DEADE) (1996–2005) and its successor program *FORGEC: Strengthening Managerial Capabilities in Cuban Entities* (2013–present) (EFMD 2015). Both programs aim to improve the efficiency of Cuban companies by providing training in leading-edge European management practices. They were funded by grants from the European Commission and implemented under the leadership of the European Foundation for Management Development (EFMD) in cooperation with the ESADE business school in Spain, a consortium of other business schools, and the Cuban Ministry of Higher Education. Though managers who complete these programs become equipped with state-of-the-art business know-how, restrictions under which they have to operate are so far reaching that one of the managers recently commented: "Why do you teach us to think when we have no freedom to act?"[5]

Cooperative Managers

Given the relatively long-term presence of agricultural cooperatives, a well-established area of education, training, and research in Cuba has been dedicated to cooperative management. For example, the University of Havana, the Universidad Central de Las Villas, and the Center for the Study of Cooperative Development and Community (CEDECOM) of the University of Pinar del Rio offer courses and have dedicated research programs. The CEDECOM has promoted the concept of "cooperative social balance," a possible basis for triple-bottom-line social accounting models for Cuba. In cooperation with local universities, *La Asociación Nacional de Economistas y Contadores de Cuba* (ANEC) provides training, workshops, and

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[5] Overheard in a conversation of Cuban managers by one of the authors in Havana in 2014 and, as in all group interactions, it may not accurately reflect the opinions of all managers.

congresses for UBPCs. Researchers at the University of Pinar del Rio have also been active in exploring how the inclusion of local enterprises and community organizations can have a positive impact in the achievement of local development strategies. Their research efforts frame this public-private-community interaction within a "social and solidarity economy" model of development (Torres Paez 2015).

Distance learning models such as the national television program, "Towards a Cooperative Culture," taught by professors from the Faculty of Economics of the University of Havana are being used as a way to expose the Cuban population to the ideas and the fundamental principles of the cooperative movement. International universities (e.g., Saint Mary's University and Sherbrook University in Canada), cooperatives, and NGOs are providing support but much more will be needed.

The *Lineamientos* have increased the need for training managers of cooperatives given the new opportunities, sectors, and players involved in the cooperative sector. Cooperatives, however, pose unique managerial challenges that cannot be solved by off-the-shelf learning—real conviction and willingness to live by cooperative principles are as important as business management skills. Cuba's traditional top-down managerial style and lack of available economic options pose threats for the type of truly voluntary association and managerial ethos inherent in successful cooperatives. Specialized learning environments that can help forge a new business culture conversant with business acumen and cooperative management are much required.

Non-state Entrepreneurs: The Cuentapropistas

Training needs for Cuban non-state entrepreneurs are high in light of job creation goals from micro and small enterprises, but opportunities have traditionally been scarce. In comparison to education programs for managers of cooperatives, training for the self-employed has so far received little attention from Cuban universities. This is due in part to the newness of this form of ownership, and to the fact that state enterprise managers and cooperative managers are preferred by the state over the *cuentapropistas*. The lack of learning environments for this segment has arguably stunted the development of an entrepreneurial culture across the country and resulted in inefficiencies in Cuban enterprises.

The first university course aimed at the *cuentapropista* market was offered in March 2014 by the University of Havana. Entitled *"Emprendimientos en Cuba: creación y desarrollo de negocios,"* or "'Entrepreneurship in Cuba: Creation and Development of Business," this 4-week course had an initial intake of 30 entrepreneurs from micro and small enterprises (Juventud rebelde 2014). Prior to this course being offered, the training gap was filled outside the mainstream university curriculum by organizations such as the National Association of Economists and Accountants (ANEC). For example, in 2012, in association with local universities and its local and provincial chapters, ANEC began offering courses to non-state entrepreneurs in areas such as accounting, financing, taxes, and general management.

The gap in management education offerings mentioned earlier is being partly filled by programs sponsored by the Catholic Church, which aim to offer training, support, and advisory services to those wishing to start their own business (Herrero 2015). However, the academic legitimacy of the programs has not been recognized by the Cuban state. As another example, StartUp Cuba is an initiative of Roots of Hope, based in Miami, which partners with academic institutions to provide training to Cuban entrepreneurs (StartUp Cuba 2016). Both StartUp Cuba and many programs sponsored by the Catholic Church hold 501(c)(3) (nonprofit) status in the USA. As a result, it is possible that they will face a degree of mistrust from the Cuban Government stemming from a history of malaise. Time will tell if Cuba is now truly open to receiving such efforts to help educate a new generation of entrepreneurs.

Precursor Learning Environments for Social Enterprise

Local Development Programs

Cuba's efforts to foster local development have provided a learning laboratory for state (at all levels), community, and international NGO/agency collaborations. These in turn have provided precursor learning environments for social enterprise by providing enterprise training and especially by linking the notions of enterprise success, local economic development, and community social value creation.

The UNDP's Local Human Development Program (PDHL) overall goal was to strengthen local capacity to manage development processes. Priority areas include technical-administrative decentralization; coverage, quality, and sustainability of local and territorial services; and local economic development (DFATD 2015). The PDHL's *Revolving Funds for Local Development Initiatives* program (FRIDEL)—a financing program for local development projects—paved the way for the subsequent initiative of the Cuban Ministry of Economy and Planning (MEP), which currently provides microloans to local productive projects through the Municipal Initiatives for Local Development (IMDL) (Sagebien and Betancourt 2014). More recently, the UNDP launched its "Framework Programme for Coordinated Platforms for Sustainable Comprehensive Local Development in Cuba" (PADIT). It was established in light of the importance of local environments, the influential role of local governments in the deployment of initiatives, and the perceived need for coordination of territorial development strategies using grassroots-level resources (UNDP Geneva 2014). The project will employ the principles inherent to IMD and engage local stakeholders to enhance capacity for community development. The strengthening of local public institutions and government capacity for coordinated management and increased participation of women and young people in economic and productive activities are key goals of the program.

The PDHL programs involve local universities in the development of knowledge, tools, methodologies, and research networks capable of capturing, analyzing, and

disseminating this knowledge through publications. The Municipal Initiatives for Local Development (IMDL) is also involved by working with universities in the identification and design of project proposals. In addition, the University of Camagüey, the Central University of Las Villas, the University of Pinar del Rio, and the University of Havana pioneered the provision of elective courses and research opportunities on local development topics.

Another program meriting mention here is the FOCAL Project, which operated from 2011 to 2014 by CARE Canada, in association with the Cuban Association of Animal Production (ACPA). The Project strengthened milk production through the creation of an integrated value chain management model (CARE Canada 2014). As part of the project, the managerial requirements and specific needs of the individual participants in these networked systems were addressed.

In many ways, the projects outlined here provide evidence that local development efforts are largely dependent on the creation of integrated business value chains and producer/consumer networks that involve not just state actors, but many others in the non-state sector. They also illustrate that the creation and maintenance of system-wide participatory learning environments are key to overall success. But perhaps, the learning that is most germane to this chapter is twofold: (1) local development can be brought about through *market interactions* between a multitude of different state and non-state economic actors and (2) *individual enterprise success does not, by definition, mean that social and environmental objectives must be left behind*. Given the UNDP's links with local universities, a possibility would be to start introducing the notion of social enterprise as part of the curriculum offerings provided within local development programs.

Academic and Practitioner Networks

Since the end of 2010, the *Socially Responsible Enterprise and Local Development in Cuba* (SRELDC) project, a consortium of international organizations (mostly Latin American, Canadian and Spanish), has worked towards the creation of a dialogue on the potential for socially responsible enterprise (SRE) in Cuba (Ritter 2013). It is comprised of academics, NGOs, and SRE experts and managers from abroad, and has partnered with Cuban organizations such as the Center for the Study of the Cuban Economy (CEEC), ANEC, and CEDEL. These efforts have been largely funded by *Fundación AVINA* and the Christopher Reynolds Foundation, as well as various agencies and research institutions of the Government of Canada.

Academics, government officials, and other groups in Cuba have engaged in dynamic exchanges with cutting-edge Latin American firms and organizations working in the SRE space. Over the past 5 years, the consortium has initiated and executed a series of highly successful programs including educational visits, conferences, and workshops. The initiative has been well received within Cuba, generating enthusiasm among important actors on the island. This series of programs has also helped coordinate efforts among a variety of groups involved in local economic planning.

The consortium has sponsored high level of educational exchanges for Cuban academics, non-state enterprise and cooperative managers, and state officials. Several delegations have traveled to the *Annual Conference of the Ethos Institute of Sao Paulo*, Latin America's leading institution on the promotion of SREs of all sizes, sectors, and forms of ownership, and on IMD approaches to economic growth. Several delegations also traveled to Ecuador, Brazil, and Canada to study the Social and Solidarity Economy (SSE) model. In Cuba, SRELDC has hosted a number of large conferences focused on topics such as CSR, cooperatives, and local development.

An important result of the SRELDC was the formation of the all-Cuban group, the *Network of Solidarity Economy and Socially Responsible Enterprises* (ESORSE) (P2P Foundation 2015), to study and promote SSE and CSR in Cuba as part of the economic updating process. The group includes academics and representatives from scientific institutions, government and nongovernmental organizations, as well as cooperatives and self-employed representatives. Monthly group meetings were organized to discuss academic articles related to these topics and members carried out concrete actions in their respective jurisdictions to implement the group's work. ESORSE organized a series of conferences, publications, and workshops, and presented its work to promote SRE topics in professional and academic conferences within Cuba. It has also explored the potential applicability of the GRI's Ethos Institute Indicators of CSR (http://www3.ethos.org.br/) to Cuba, considering the socialist character of the economy and the various forms of property ownership in it such as state enterprise (which includes joint ventures), cooperatives, and private.

Despite the successes and enthusiasm of the ESORSE network and its members, its capacity to continue its work has been somewhat curtailed by state authorities. Nevertheless, members have continued working on these topics within their own institutions and continue to gather at SRELDC conferences on the island. Finding ways to continue these informal learning networks and especially to institutionalize the topics of SRE and the social economy in academic settings, especially at the university level, is an important next goal.

Obstacles to Social Enterprise Development

Though the inclusion of external stakeholders in the business models of Cuba's non-state-sector enterprises is a positive indicator of the potential for social entrepreneurship taking root in Cuba, Cuba's adoption of social innovation, responsible enterprise, and inclusive development is hampered by many factors. Four of the most salient of these are listed below.

There is *a conceptual gap* in the understanding of terms such as social innovation and social enterprise. For example, the *Lineamientos* neither refer to these terms nor to any associated concept. This is likely the result of the fact that neither the bureaucrats, the politicians, nor the planners charged with developing economic policy have any familiarity with these concepts as currently understood in the capitalist countries where they originated. For example, Nuñez points out that: "there are no

references to SI [social innovation] in the imaginary of public policy-makers" (Núñez et al. 2016), and that social innovation is likely to be understood within prevailing frameworks of scientific and technological innovation. Most Cuban academics and policy planners are familiar with Marxist economic theory, laissez-faire market economics, and the processes of "transition" in former Soviet countries, China and Vietnam. Few have any familiarity with the study of social enterprise as an agent of development and as facilitators of collective social welfare.

There is also *ideological resistance* to the need for social enterprises as a necessary vehicle through which to achieve socialist social innovations. In a socialist state, state enterprises are considered to be already "social" and "inclusive" in character and purpose—so even the notion of a distinct breed of "social" enterprise is redundant. In this context, socially responsible behaviors could be described as a form of "implicit" corporate social responsibility (Matten and Moon 2008), where organizations are operating in a wider social system that consists of values, norms, and rules that are understood as necessary for legitimization. However, the introduction of private enterprises will force a re-questioning of the implied social objective of enterprises in the socialist system and the necessity of articulating explicit triple-bottom-line objectives for private enterprises. In developed and underdeveloped market economies social enterprises often serve the need of populations affected by market externalities and governance gaps. In Cuba, the existence of market externalities has traditionally been used to provide proof of the failures of capitalism, so hard-liners within Cuba will resist the increase in market activity that the "enterprise" aspect for social enterprises requires. Moreover, closing governance gaps through more state presence is a national obsession. Thus, the notion of a "private" or non-state enterprise delivering innovative market-based solutions to societal problems in situations where there are gaps in the state's governance capacity does not make for polite conversation in Cuba for an abundance of reasons.

The lack of a thriving SME sector in developing countries has been proven to have deleterious effects on economic development. Unfortunately, in Cuba, the growth of this "missing middle" is likely to be conflated with the return of the bourgeoisie. Thus, the initial reaction by the Cuban Government to policy models aimed at assisting the growth of non-state-sector medium-sized businesses, whether they deliver social benefits or not, is suspicious given its incongruence with prevailing ideological and political paradigms. So far, the contradiction between having to grow the missing middle in order to foster economic growth and preventing the return of the bourgeoisie is being "solved" in the mind of Cuban officials by allowing only cooperatives and state/mixed entities to grow to mid-size enterprise and by efforts to "socialize" enterprises.

There are very *thorny agency issues* for Cuba's state planners. Social enterprises as agents of inclusive development have, by and large, been conceived in countries with high rates of private enterprise and where the citizenry has ample economic and political agency space. This is neither the case in Cuba, nor a desired outcome for the planners in Cuba's state-centered and planned socialist economy. A new bourgeoisie of business owners, and a politically empowered civil society, are feared as possible destabilizing agents to state power and state ideology. As argued by

Sagebien and Betancourt (2014), politically, proponents of civil society in Cuba face a double challenge. On the one hand, there is an inherent conflict between a political system that has an all-embracing, paternalistic conception of the state and that vertically controls all political and economic life and a civil society that sees itself as independent from such a state and sees its actions as legitimate political acts. On the other, beginning in the 1990s, the US Government and counterrevolutionary exile groups have been promoting the development of a civil society in Cuba as a means of bringing about "regime change."

Bureaucratic and institutional overlap and resistance to change are hampering the process. While the notion of social innovation is nearly universally hailed as a "good thing," it is well documented that individuals simply resist change. Cuba's bureaucracy has been ubiquitous and all-powerful and will resist decentralizing forces such as local development and the emergence of a new class of individuals whose livelihood is independent of direct state control. Some Cubans believe that the main opposition of Raul Castro's "actualization" is the adherents to his brother Fidel's "revolution."

Thinking outside the box, the hallmark of social innovation, carries enormous *political risk* for those living in Latin American totalitarian regimes of the right and the left alike. Thinking and acting outside of the parameters established by the regime in question at a specific moment in time is a very expensive proposition. In these regimes, the individual and systemic disruptions necessary for the process of innovation to be unleashed are, by and large, considered suspect by the collective conformists that protect the system. Thus, thinking outside of the box can have many deleterious consequences in a system where thinking within the box, as defined by the ruling regime, is the key to personal welfare and career advancement.

In Cuba, Fidel Castro's remark "*dentro de la Revolución, todo; contra la Revolución, nada*" ("within the Revolution everything, against the Revolution nothing") (Castro 1961) has traditionally set the parameters for what is permissible. Given the elasticity of the term "Revolution," finding the edge of what is permissible at any one moment in history, and in any one specific setting and gathering of individuals, has become a national sport. These comments are not meant to romanticize the democratic and laissez-faire approaches lauded in the social innovation literature, but rather to alert proponents of social innovation and social enterprise in Cuba to the extreme care, contextual knowledge, and generalized finesse with which these ideas must be handled, in and out of the island.

Recommendations: Planting the Seeds for a Way Forward

A series of concerted and coordinated efforts will be required from policy makers, government officials, educators, state and foreign company managers, individual entrepreneurs, and citizens to stimulate a new era of social innovation in Cuba. In this final section of our chapter, we focus on three key initiatives that could facilitate this process: adoption of inclusive market development (IMD) frameworks in

official development policies; implementation of blended value frameworks for educating social entrepreneurs; and generation of research that takes advantage of the unique opportunity provided by the Cuban context to increase understanding of the institutional and sociopolitical factors affecting the emergence and success of social enterprises.

Adoption of Inclusive Market Development Models

The CARE Canada, UNIDO, and UNDP Local Development experiences presented earlier have delivered tangible, timely benefits to communities while satisfying the policy objectives of local development authorities. As argued, these programs have provided the basis for strong rationale through which to explain how successful business enterprise ecosystems can deliver social and environmental value, and thus how social enterprises could become an important partner in state-led social and economic development efforts. Though the term inclusive market development rarely accompanies descriptions of these programs in Cuba, they undoubtedly fall within this category. To illustrate this point, UNDP has led the charge for the adoption of IMD, while CARE has advocated a similar approach that they refer to as the "Creating Markets for the Poor" or "M4P."

IMD focuses on "markets that extend choices and opportunities to the poor (and other excluded groups) as producers, consumers and wage earners" (UNDP). It works to address barriers to IMD at various levels in markets or subsectors that are important to the poor. Such barriers can include lack of appropriate policies, limited access to finance and market opportunities, missing business and value chain linkages, and infrastructure constraints. IMD policies include "pro-poor" business strategies designed to improve the lives of stakeholders through market activities such as bottom of the pyramid (BOP) strategies (Prahalad 2012), pro-poor tourism, and inclusive value chains (e.g., preferential buying), and are often complemented with targeted government and private procurement. Participation of relevant stakeholders is targeted, including all levels of government, NGOs, community leaders, academia, and the private sector, and attempts to make them work together to create better terms for the poor as they engage economic systems.

Adopting IMD models, especially within the local development framework, represents an opportunity for Cuban planners since it focuses on removing barriers and obstacles to entrepreneurial ecosystems while benefiting communities directly—especially disenfranchised ones. Since Cubans suffer from economic disparities based on geography, gender, race, and access to remittances despite the government persistent efforts to eradicate them, the adoption of IMD could provide the Cuban state with a recipe through which to achieve social equity through economic growth itself. Sagebien and Betancourt (2014) have argued this point in more detail.

The adoption of IMD models could have the added benefit of overcoming some of the obstacles to the adoption of social entrepreneurship models mentioned in the previous section. First of all, the IMD approach is not just a civil society-centered

approach (which could be how pure social enterprise promotion could be seen). Rather, IMD is a systems-wide, multi-actor approach that requires policy and planning. This clear role for state economic planners should ease the bureaucratic resistance to market-based models such as social enterprise. Couching social enterprise development as part of IMD would thus increase the comfort level of Cuban state officials who are likely to regard social entrepreneurship as too capitalistic, individualist, and bourgeois sounding for their political palate. Similarly, the IMD multi-actor model may offer a potential avenue for convincing Cuban state planners to allow for a greater scope of linkages between large foreign partners and state enterprises with *cuentapropistas* and communities.

Cuban planners, despite themselves, will have to move away from their predilection for command economy-type mandates and rigid bureaucratic structures towards models that enable self-reinforcing and arms-length business dynamics within regulatory frameworks. IMD models would provide a good rationale through which to argue that the evolution of independent market dynamics with inclusive mechanisms built-in by policy design is "con la Revolucion" not "contra la Revolucion." Granted, politically correct alternative terms and logics that can bypass knee-jerk reactions to terms like markets, poor, and missing middle will have to be developed for more easy digestion, especially by Cuban hard-liners.

Implementation of Blended Value Frameworks for Educating Cuba's Social Entrepreneurs

Cuba's future social entrepreneurs are faced with the daunting task of learning how to be successful commercial entrepreneurs while learning how to incorporate social value creation into their business models. Moreover, they are doing this in a country where their efforts are not supported by public policy, and where the basic business environment is extraordinarily complex, deficient, and even lacking in the most basic of inputs (wholesale markets, credits, business know-how, distribution networks, equipment, etc.). In our research, we sought out models of social enterprise education that could simultaneously provide basic entrepreneurial education and know-how for blending economic success with social value creation.

As noted in our literature review, Kickul et al. (2012) have applied a blended value framework to how educators can design, measure, and implement social entrepreneurship education programs. The framework includes four main pedagogical themes of social entrepreneurship education: social innovation (recognition of opportunities), financial sustainability, scalability (growth strategies), and social impact. These themes are overlaid with traditional themes covered in business schools including opportunity recognition (filling market voids), business models (rationale for creating, delivering, and capturing value), growth strategies, and financial performance. The authors also advocate for a collaborative approach, wherein universities partner with government agencies, microfinance organizations,

and nongovernmental organizations (NGOs). This community-driven strategy aligns with principles of IMD and the network approach to social enterprise education discussed earlier and is particularly relevant in the context of resource-constrained Cuba. Interuniversity collaboration is also important and could take the form of co-creation of courses, field work, forums, student competitions, and social enterprise incubators (Kickul et al. 2012:489).

Baden and Higgs (2015) challenge dominant approaches to management education that emphasize the preeminence of shareholder value creation and call for "wiser" pedagogical methods that de-throne the trump card of profit maximization in curriculum. Recent work in the Cuban context by one of the same authors revealed evidence of local norms of solidarity, the existence of a discourse that de-emphasizes financial value and focuses on individuals as "citizens" rather than "consumers," and a system of metrics that measures not only profits, but also social and environmental goals. However, it should be noted that in the Cuban context, profit generation may not be the overriding purpose of the enterprise because resource allocation is determined by the central government through central plans aligned with ideological and national priorities. Thus managerial preference for nonprofit measures is more of a rational choice than an indication of value management on the part of the managers or the firm. Moreover, Cuban managers are increasingly expected to show profits or have their state enterprises closed, endangering the relevance of the system that has valued other metrics.

The "prosperous" side of the goal of a "prosperous socialism" is increasingly gaining prominence in Cuban management circles, and with it the pursuit of profit. Our review of the business training being offered to managers, cooperativistas, and *cuentapropistas* demonstrates this. The "socialism" side of the equation is still extraordinarily important to Cuban leaders. What is less clear is how they can both be achieved without detrimental trade-offs. Thus the task at hand in the Cuba of today is to find a hybrid business model and a pedagogy that can deliver both a prosperity based on successful business enterprises and socialist values at the same time. Our fundamental recommendation is take advantage of the confluence of blended value business education models in capitalist countries with a need to develop pedagogies that can deliver a prosperous and inclusive socialism in Cuba. It is a truly historic opportunity and should not be wasted. A simple place to begin is to offer a course at a university level on social enterprise using the model suggested by Kickul et al. (2012). In order to further localize the learning, the course could also act as a business case writing workshop that documents the kinds of business decisions made in Cuban social enterprises.

Generation of Macro-Level Social Entrepreneurship Research

Our third recommendation is aimed at researchers. Consideration of the macro-level sociopolitical, economic, and cultural factors that affect the emergence and success of social entrepreneurship has been a gap in research with further potential to be

explored. Sociopolitical legitimacy develops when key stakeholders—including the government and the public—accept the venture as appropriate within existing societal norms and rules (Griffiths et al. 2013). As discussed in the context of obstacles to social entrepreneurship, potential barriers to this sociopolitical legitimacy exist in the Cuban context in the form of ideological resistance and "thorny" agency issues. However, an opportunity is present for researchers to study the Cuban case in this unique point in history to better understand how the changing political environment, economic evolution, and need for novel solutions to social issues in a context of resource constraints can affect the presence and success of social innovation and enterprise. Welter and Smallbone (2011) particularly note that economies with recent histories of central planning provide "a fascinating laboratory for scholars interested in the interface between institutions and behavior" (p. 108). They reiterate the importance of social values and norms in accepting entrepreneurship activities, and the difficulties in changing informal structures and belief systems. However, as discussed in our literature review, social entrepreneurs often exhibit characteristics associated with bricolage and institutional entrepreneurship in the face of limited resources and resistance to change. Therefore, we propose that Cuba offers a unique research site at this integral and potentially transformative point in its history that could offer valuable lessons for social entrepreneurship knowledge. We recommend that the teams be composed of both Cuban and international researchers in order to better traverse the contextual dynamics of the comparative work as well as the conceptual assumptions of the researchers themselves.

Summary and Closing Thoughts

We set out in this chapter to explore the potential for application of the social innovation and social enterprise framework in the context of Cuba's non-state enterprise sector. We presented relevant literature outlining key characteristics of social entrepreneurs and the role of social enterprise in achieving social impact—especially in the context of resource-constrained economies. We further argued that the emergence and scale of impact of social enterprise are mediated by the macro-level environment within which it operates, and thus provided a high-level overview of how Cuba's historical conception of the role of enterprises in a socialist system affects the potential for social entrepreneurship. Following this historical context we introduced several examples of social enterprises in Cuba (both private ventures and cooperatives), and reviewed the importance of learning environments for cultivating social entrepreneurs. We began this review by documenting traditional educational business models for state managers, cooperative managers, and *cuentapropistas*. We then moved to new developments pertaining to the local development framework and network approaches for learning as precursors to learning environments for social entrepreneurs. From here, we identified potential obstacles to the application of the social innovation and social enterprise lens in Cuba and recommendations for how to address them. Lastly, we made three recommendations: (1) the

adoption of inclusive market models of development at a policy level; (2) the development of blended value learning paradigms for business education; and (3) the formation of national/international teams of researchers tasked with exploring the effect of institutional and sociopolitical factors in the development of social enterprises.

In a recent article in the *Stanford Social Innovation Review*, Henry Mintzberg advocates for greater recognition of the "plural sector"—consisting of associations of people that are neither private nor public, but are instead community focused (Mintzberg 2015). He argues that it is time to rebalance societies—that capitalist ones have become too focused on the private sector, that communist regimes have overemphasized the public sector, and that the plural sector has generally been overlooked. Cuba provides an interesting laboratory for the exploration of a plural sector that is capable of working within large state sector, but at the same time capable of fostering a thriving private sector and a participatory citizen sector.

As we conclude this chapter, the normalization process of Cuban-US relations is unfolding rapidly. A Cuban embassy has been reestablished in Washington, DC, and the United States Interest Section in Havana is now a US Embassy. On September 18, 2015, the US Government announced a broad set of regulatory changes to its Cuba policy aimed at deepening the economic, cultural, educational, and social relations between both nations (US Dept of the Treasury 2015). On an individual level, a new breed of young "transnational" entrepreneurial Cubans capable of operating in the prosperous milieu of Miami and in the socialist milieu of Havana is emerging in "the new Cuba" (Anderson 2015). These change agents are networking with governments, NGOs, and citizens on the island who are themselves change agents, as well as with the various networks of foreigners eager to participate in Cuba's future. Amidst this time of change, we hope that Cuba will find its new balance and embrace the potential role of its plural sector in instilling a socially driven entrepreneurial culture in a sea of social (non-state) enterprise.

References

Alternatives. (2015). *The local development center (Cuba)*. Retrieved from https://www.alternatives.ca/en/allies/local-development-center-cuba.

Anderson, J. L. (2015). Opening for business: A former Marielito positions himself as an entrepreneur in the new Cuba. *The New Yorker, July 20, 2015*.

Baden, D., & Higgs, M. (2015). Challenging the perceived wisdom of management theories and practice. *Academy of Management Learning & Education, 14*(4), 539–555. doi:10.5465/amle.2014.0170.

Baker, T., & Nelson, R. E. (2005). Creating something from nothing: Resource construction through entrepreneurial bricolage. *Administrative Science Quarterly, 50*(3), 329–366.

BBC News. (2013). *Cuban President Raul Castro to retire in 2018*. Retrieved from http://www.bbc.com/news/world-latin-america-21568158.

Betancourt, R., & Sagebien, J. (2013). Para un crecimiento inclusivo: Empresas no estatales responsables en Cuba. *Temas, 75*, 58–65.

Brundenius, C., & Le Dang, D. (2014). Innovation, entrepreneurship, and SMEs: What can cuba learn from the Vietnam reform process? In C. Brundenius & R. Torres Pérez (Eds.), *No more free lunch* (pp. 129–151). Cham: Springer.

Brundenius, C., & Torres Pérez, R. (Eds.). (2014). *No more free lunch: Reflections on the cuban economic reform process and challenges for transformation*. Cham, Switzerland: Springer International.

CARE Canada. (2014). *CARE in Cuba: Greater integration of the dairy value chain in 2 Cuban Provinces (FOCAL Project)*. Retrieved from http://care.ca/sites/default/files/files/publications/Cuba-FOCAL.pdf.

Carranza, J., Monreal, P., & Gutierrez, L. (1995). Cuba: Reconstrucción económica, socialismo y mercado. *Temas Review, 1*, 27–35.

Castro, F. (1961). *"Words to the Intellectuals" (Palabras a los Intelectuales), the concluding speech given by Fidel Castro at a series of meetings with Cuban intellectuals*. Retrieved from http://www.cuba.cu/gobierno/discursos/1961/esp/f300661e.html.

Communist Party of Cuba. (2011). *Resolution on the guidelines of the economic and social policy of the party and the revolution*. Retrieved from http://www.cuba.cu/gobierno/documentos/2011/ing/l160711i.html.

Dees, J. G. (1998). *The meaning of social entrepreneurship*. Kauffman Center for Entrepreneurial Leadership.

Dees, J. G. (2007). Taking social entrepreneurship seriously. *Society, 44*(3), 24–31.

Dembek, K., Singh, P., & Bhakoo, V. (2015). Literature review of shared value: A theoretical concept or a management buzzword? *Journal of Business Ethics,* 1–37.

DFATD. (2015). *Project profile: Local human development program (PDHL)*. Retrieved from http://www.acdi-cida.gc.ca/cidaweb/cpo.nsf/projen/A032273001.

Di Domenico, M., Haugh, H., & Tracey, P. (2010). Social bricolage: Theorizing social value creation in social enterprises. *Entrepreneurship: Theory and Practice, 34*(4), 681–703.

Dominguez, J. (2015). What you might not know about the Cuban economy. *Harvard Business Review*. Retrieved from https://hbr.org/2015/08/what-you-might-not-know-about-the-cuban-economy.

EcuRed. *El Patio de Pelegrín*. Retrieved from http://www.ecured.cu/index.php/El_Patio_de_Pelegr%C3%ADn.

EcuRed. *Proyecto Fidias*. Retrieved from http://www.ecured.cu/index.php/Proyecto_Fidias.

EFMD. (2015). *FORGEC: Strengthening managerial capabilities in cuban entities*. Retrieved from https://www.efmd.org/eucooperation-main/current-projects/forgec.

Emerson, J. (2003). The blended value proposition. *California Management Review, 45*(4), 36.

Everleny, O. (2008). *Discussion panel: "1968: A retrospective look"*. La Habana, Cuba: Animation Studios of ICAIC.

Friedman, M. (1970). The social responsibility of business is to increase its profits. *The New York Times Magazine,* 173–178.

Goldenberg, M., Kamoji, W., Orton, L., & Williamson, M. (2009). *Social innovation in Canada: An update*. Ottawa: Canadian Policy Research Networks Canada.

Griffiths, M. D., Gundry, L. K., & Kickul, J. R. (2013). The socio-political, economic, and cultural determinants of social entrepreneurship activity: An empirical examination. *Journal of Small Business and Enterprise Development, 20*(2), 341–357.

Herrero, R. (2015, October 5). Six lessons in innovation from Cuban entrepreneurs. *The Huffington Post*. Retrieved from http://www.huffingtonpost.com/ricardo-herrero/six-lessons-in-innovation_b_8241974.html.

Howaldt, J., Schwarz, M., Henning, K., & Hees, F. (2010). *Social innovation: Concepts, research fields and international trends*. Aachen: IMA/ZLW.

Jack, S. L., & Anderson, A. R. (2002). The effects of embeddedness on the entrepreneurial process. *Journal of Business Venturing, 17*(5), 467–487.

Juventud rebelde. (2014). *Universidad de La Habana capacita a trabajadores por cuenta propia*. Retrieved from http://www.juventudrebelde.cu/cuba/2014-03-20/universidad-de-la-habana-capacita-a-trabajadores-por-cuenta-propia/.

Kickul, J., Janssen-Selvadurai, C., & Griffiths, M. D. (2012). A blended value framework for educating the next cadre of social entrepreneurs. *Academy of Management Learning & Education, 11*(3), 479–493.

Krugman, P. (2015). *The opinion pages: Ideology and integrity*. Retrieved from http://www.nytimes.com/2015/05/01/opinion/paul-krugman-ideology-and-integrity.html.

Mair, J. (2010). Social entrepreneurship: Taking stock and looking ahead. In A. Fayolle & H. Matlay (Eds.), *Handbook of research on social entrepreneurship* (pp. 15–28). Cheltenham, UK: Edward Elgar.

Martin, R. L., & Osberg, S. (2007). Social entrepreneurship: The case for definition. *Stanford Social Innovation Review, 5*(2), 28–39.

Matten, D., & Moon, J. (2008). "Implicit" and "explicit" CSR: A conceptual framework for a comparative understanding of corporate social responsibility. *Academy of Management Review, 33*(2), 404–424.

Mintzberg, H. (2015). Time for the plural sector. *Stanford Social Innovation Review, 13*(3), 28–33.

Mulgan, G., Tucker, S., Rushanara, A., & Sanders, B. (2007). *Social innovation: What it is, why it matters and how it can be accelerated*. London: The Young Foundation.

Neamtan, N., & Downing, R. (2005). Social economy and community economic development in Canada: Next steps for public policy. *Issues paper by the Chantier de l'Économie Sociale in collaboration with the Canadian Community Economic Development Network (CCEDNet) and Alliance Recherche Universités-Communautés en Économic Sociale (ARUC-ÉS)*.

Nova, A. (2011). Las cooperativas agropecuarias en Cuba: 1959–presente Cooperativas y Socialismo: Una mirada desde Cuba. *Caminos*, 321–336.

Núñez, J., Figueroa, G., Alcazar, A., & Proenza, T. (2016). University, social innovation and inclusive development: Does that debate matter to Cuba? Does Cuba have experience in this field? In C. Brundenius (Ed.), *Universities, inclusive development and social innovation: An international perspective*. New York: Springer.

P2P Foundation. (2015). *Lineamientos reform in Cuba*. Retrieved from http://p2pfoundation.net/Lineamientos_Reform_in_Cuba.

Peredo, A. M., & McLean, M. (2006). Social entrepreneurship: A critical review of the concept. *Journal of World Business, 41*(1), 56–65.

Peters, P. (2012). *Cuba's entrepreneurs: Foundation of a new private sector*. Arlington: Lexington Institute.

Phillips, W., Lee, H., Ghobadian, A., O'Regan, N., & James, P. (2015). Social innovation and social entrepreneurship a systematic review. *Group & Organization Management, 40*(3), 428–461.

Phills, J. A., Deiglmeier, K., & Miller, D. T. (2008). Rediscovering social innovation. *Stanford Social Innovation Review, 6*, 34–43.

Porter, M. E., & Kramer, M. R. (2011). Creating shared value. *Harvard Business Review, 89*(1/2), 62–77. Retrieved from http://library.smu.ca:2048/login?http://search.ebscohost.com/login.aspx?direct=true&db=buh&AN=56698455&site=ehost-live.

Prahalad, C. (2012). Bottom of the pyramid as a source of breakthrough innovations. *Journal of Product Innovation Management, 29*(1), 6–12.

Ritter, A. (2013). *Information on project: "Socially Responsible Enterprise, Local Development in Cuba"*. Retrieved from http://thecubaneconomy.com/articles/2013/01/information-on-project-socially-responsible-enterprise-local-development-in-cuba/.

Ritter, A. (2014). Cuba's Apertura to small enterprise. In C. Brundenius & R. Torres Pérez (Eds.), *No more free lunch* (pp. 109–127). Cham, Switzerland: Springer.

Ritter, A. (2015). The Cuban Economy: Number of Self-employed People in Cuba Exceeds Half a Million. Retrieved June 17, 2015 from http://thecubaneconomy.com/articles/2015/06/number-of-self-employed-in-cuba-exceeds-half-a-million/

Ritter, A., & Henken, T. (2014). *Entrepreneurial Cuba: The changing policy landscape*. Boulder, CO: First Forum Press.

Sagebien, J., & Betancourt, R. (2014). Non-state socially responsible enterprises: The key to inclusive economic growth in Cuba. In C. Brundenius & R. Torres Pérez (Eds.), *No more free lunch* (pp. 193–222). Cham, Switzerland: Springer.

Sagebien, J., & Leenson, E. (2015). Cuban remix. *Stanford Social Innovation Review, 13*(1), 59–60.

Seelos, C., Mair, J., Battilana, J., & Dacin, M. T. (2011). The embeddedness of social entrepreneurship: Understanding variation across local communities. *Research in the Sociology of Organizations, 33*, 333–363.

Seyfang, G., & Smith, A. (2007). Grassroots innovations for sustainable development: Towards a new research and policy agenda. *Environmental Politics, 16*(4), 584–603.

Shrivastava, P., & Kennelly, J. J. (2013). Sustainability and place-based enterprise. *Organization & Environment, 26*(1), 83–101. doi:10.1177/1086026612475068.

StartUp Cuba. (2016). *Developing a new generation of socially minded entrepreneurs*. Retrieved from http://www.startupcuba.org/.

The Economist. (2012). Cuba hurtles towards Capitalism: A 10-page Special Report. *The Economist, March 24th 2012*.

Torres Paez, C. C. (2015). *La Economía Social y Solidaria en Cuba: su impacto en el desarrollo local*. Paper presented at the XXXIII Congreso Internacional de la Asociacion de Estudios Latino Americanos.

UNDP. (2015). *Inclusive market development*. Retrieved from http://www.undp.org/content/undp/en/home/ourwork/partners/private_sector/IMD.html.

UNDP Geneva. (2014). *The SDC is contributing to the Cuban Initiative for Comprehensive Local Development (PADIT)*. Retrieved from http://www.europe.undp.org/content/geneva/en/home/presscenter/articles/2014/12/16/the-sdc-is-contributing-to-the-cuban-initiative-for-comprehensive-local-development-padit-.html.

US Dept of the Treasury. (2015). *Treasury and commerce announce further amendments to the Cuba sanctions regulations*. Retrieved from http://www.treasury.gov/press-center/press-releases/Pages/jl0169.aspx?utm_content=Link+3994&utm_campaign=PressRelease&utm_source=Engage+Cuba+Statement+on+Cuba+Regulation+Changes+Announced+Today&utm_medium=Email.

Vila, L. (Writer). (2013). Razones/Reasons - Social Entrepreneurship in Cuba (Documentary). In P. Palomas/ICAIC (Producer). Accessed at https://soleconomics.com/video-razones-social-entrepreneurship-in-cuba/

Welter, F., & Smallbone, D. (2011). Institutional perspectives on entrepreneurial behavior in challenging environments. *Journal of Small Business Management, 49*(1), 107–125.

Westley, F., Olsson, P., Folke, C., Homer-Dixon, T., Vredenburg, H., Loorbach, D., et al. (2011). Tipping toward sustainability: Emerging pathways of transformation. *AMBIO: A Journal of the Human Environment, 40*(7), 762–780.

Chapter 8
Fostering the Developmental Role of the University in Uruguay

Rodrigo Arocena

Abstract In this chapter, an attempt to reform the public University of the Republic in Uruguay during the period 2006–2014 is evaluated. The guiding idea for the reform was the notion of the Developmental University where academic quality and social engagement could be harmoniously combined. Specific policies and concrete actions taken included extending higher education to the interior of Uruguay, making teaching modalities more flexible by teaching the same course in different ways, increasing cooperation with society, and including extension activities in the curricula of every career. A partial and preliminary assessment of achievements reveals important accomplishments in terms of inclusiveness, enlargement of extension services, and improved graduation levels. Observed shortcomings and failures are related mainly with a weak capacity to find and organize stakeholders. From the point of view of the potential contributions of universities to inclusive development and the democratization of knowledge, a major lesson stemming from the reform work is that the possibilities of a Developmental University are highly dependent on the orientations of social movements and especially their attitudes towards advanced knowledge. Such attitudes usually include examples of estrangement, distrust, hostility, more or less informed positive expectations, and even the will to get involved in related policies and actions. This is a more general challenge for strategies oriented to an inclusive development.

Keywords Uruguay • Developmental University • University reform • Inclusive development

Introduction

During 8 years (2006–2014) a Reform was fostered in the "Universidad de la República" (University of the Republic, Uruguay—UdelaR from now on); it was oriented by the notion of Developmental University. That notion is presented and

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discussed in more detail in Chap. 3 by Arocena and Sutz in this book, where the corresponding references are given.

The Editors of this book have been so amiable as to invite me to contribute with an appraisal of such attempt; it partially summarizes the Report of that period (Arocena 2014) during which I was the Rector of the University. Consequently no "neutrality" is claimed but objectivity is pursued as far as it is compatible with deep involvement.

In the first section some considerations on education are presented in a way that complements the notion of Developmental University. In the second section main ideas and practices that define the Reform attempted in UdelaR are described. In the third section some lessons stemming from that experience are analyzed from the point of view of the possibilities for and difficulties of fostering the developmental role of universities.

Educating in Democracy

In the history of Spanish speaking Latin American Higher Education three stages can be considered as "ideal types" with special influence. The first one, starting in the sixteenth century, is the "Colonial University," a unitary institution directly copied from the medieval university with the mission of directing education at every level. The second stage can be labelled the "Republican University" shaped in the nineteenth century for the purpose of educating the elites—mainly lawyers—of the highly unequal new independent countries. The third stage resulted from the changes attempted, successes and failures of the Latin American University Reform Movement that emerged in the first decades of the twentieth century as one of the main component of the struggles against the oligarchic domain that characterized the continent.

The program of such Movement can be summarized by the purpose of democratizing the university in order to contribute to the democratization of society at large. In different ways such program was fostered almost in every country of Latin America, including Brazil; that gave a kind of "unity in the diversity" to public Higher Education in the region. Its relevant shortcomings notwithstanding, the tradition of the Latin American University Reform Movement has been a main inspiration for projects aiming at democratizing Higher Education, including the very modest one reported here.

Main Assumptions

Normatively we assume that public universities should aim to combine academic quality and social engagement. For that, a main challenge stems from the increasing role of advanced knowledge, in production as in destruction, in health as in war, in bettering the life of many, and in widening inequality. The strongest economies are

knowledge-based and innovation-driven. Production power increases the range of consumption; their combination erodes the environment and makes the possibility of climatic catastrophes a specific trait of our age.

The increasing power stemming from science and technology, in the context of capitalist social relations, fosters a strong trend towards the privatization of knowledge. Societies of today are deeply influenced by the privatization of education, of research results and of the use of advanced knowledge in general. The phenomenon is especially serious for peripheral regions. To different degrees they are characterized by not having advanced knowledge as the main basis of their economies. Consequently the market demand of such knowledge is weak and mainly addressed to foreign providers, so national supply of knowledge remains on average weak or very weak but nevertheless it is underutilized. That is a fundamental trait of many Latin American countries, including Uruguay.

Countries where advanced knowledge is weakly generated and used are highly dependent on other countries, economically and politically, and perhaps also ideologically because they lack some capabilities needed to analyze social problems and to choose the best solutions. Moreover, in such countries, only minorities will be able to profit from the benefits of knowledge so inequality tends to grow. A main example of this is that differences in educational levels seem to have increasing influence in income differences. Such levels stem from formal education (learning by studying) but also from occupational opportunities (learning by working in nonroutine activities).

Let us sum up. Fostering democratization in general requires more than ever fostering knowledge democratization which includes knowledge expansion, particularly in underdevelopment. A major aspect of it is the generalization of lifelong Higher Education combined with work. Those are fundamental tasks for public universities.

Dimensions of Education

Teaching in Higher Education includes professional or specialized training, general culture, and ethical education. Each dimension and their interconnections pose specific problems. Solutions are increasingly complex and time dependent due to at least two main processes: the growth of knowledge and the expansion of ideological pluralism. Both processes make it increasingly difficult to take into account those three dimensions of teaching, at least when the aim is to educate in democracy and for democracy. But if the last is a challenge, it is also a clue.

The ethical dimension of teaching in a republican and plural context is clearly relevant but not at all easy. Alternatives may be looked for, remembering that in some sense democracy is to govern by means of discussion, so discussion must be a fundamental aspect of education in democracy. It requires making proposals that generate wide debates and may lead to important decisions, thus offering possibilities to learn how to discuss and decide democratically. This was one of the reasons why a new University Reform was proposed in the University of the Republic.

Characterizing the general culture that Higher Education should offer is increasingly complicated by the expansion of normative pluralism as well as of knowledge, specializations, and ways of doing new things. Such processes make the dialogues between different cultures increasingly difficult. This is of course a great problem for ethical education that must help different people to talk, decide, and live together in tolerant and democratic contexts where human rights are protected.

Moreover, when dialogues are increasingly restricted to people with similar backgrounds, an impoverishment of culture is the result. The expansion of knowledge requires increasingly specialized trainings, but the trend may be practically damaging because it makes the combination of different types of knowledge usually needed to solve practical problems more difficult.

The fragmentation of cultures and types of learning is thus a cultural, political, and practical problem. An individual solution is not feasible: there is no return to the dawn of philosophical academies when some men could expect to master all available knowledge. Universities, as heirs of such academies, can contribute to a collective solution that fosters the various ways of cultivating cultural creation and knowledge as well as "democratic"—plural, tolerant, horizontal—dialogues between different approaches and disciplines in order to widen perspectives and cope with multifaceted problems.

Such potential collective benefits will be increased by generalizing the effective access to Higher Education which nowadays should be seen as an individual right, as universal suffrage or, as it was some time ago, the effective access to elementary education. Ethical education includes relating the right to advanced specialized education with the duties of cooperating with society of those who are benefited with such education; university students can use their knowledge in socially valuable ways even before graduating; that should be a main aspect of their ethical education that universities must foster.

Educating in democracy assumes modestly that we ignore much more than we know; thus it is related with the old tradition of active teaching brilliantly presented already in some Socratic dialogues. In such tradition students should not be seen as receptors of knowledge and values transmitted by their teachers but as the main protagonists of learning processes aiming at expanding their capabilities to autonomously elaborate, adapt, criticize, and change received knowledge. Helping students to learn in this way is more difficult for teachers than just "transmitting knowledge"; it is also much more interesting and rewarding; moreover it helps teachers to keep on learning.

Active teaching points in the same direction as the Humboldtian project of connecting teaching and research. Democratically oriented active teaching is related with the Latin American University Reform project of connecting teaching, research, and extension activities. This approach is also related with the aim of making participation a guide both for teaching and for the government of education. Students should participate in defining work in the classroom and study programs, the institutional functioning, and the relations with external actors. "Horizontal" ways of teaching and deciding generate tensions and conflicts: doesn't that happen when "vertical" ways are chosen? Participation *teaches* in the

three dimensions of education we have been considering; it contributes to a better professional training, to the culture of diversity, and to the ethics of democracy. It is a potential school of citizenship.

Summing up, educating in democracy is akin to development defined by Amartya Sen as the expansion of capabilities and freedoms. In the chapter by Arocena and Sutz such definition is presented as the core of inclusive development. There, refining previous work, the *Developmental University* is characterized by its commitment to inclusive development by means of the interconnected practice of three missions: (1) teaching, (2) research, and (3) fostering the socially valuable use of knowledge. Such commitment means that developmental universities must contribute to building Learning and Innovation Systems by cooperating with other institutions and collective actors. In the same chapter, those three missions are characterized as will be recalled below.

This section has sketched the general ideas that, as reported in the next section, inspired an attempt at fostering the developmental role of a public university in Uruguay.

Ideas and Practices for University Reform

Defining the Guiding Lines

The UdelaR is directed by its Central Directive Council (CDC from now on), composed by delegates of students, teachers, and graduates, Deans of Faculties, and the Rector. Culminating a wide discussion opened in the UdelaR by the election of the new Rector in 2006, special sessions of the CDC in March and April 2007 unanimously defined the guiding lines for a new University Reform.

The general aim was to cooperate with the widest possible set of social and institutional actors in order to open possibilities for a fundamental transformation, the generalization of tertiary education.

The resolutions adopted by the CDC in 2007 stressed that the UdelaR was willing to cooperate in improving the System of Public Education of Uruguay as a whole and particularly in the much needed creation of new public institutions of tertiary education in such a way that old and new institutions could coordinate teaching, research, and extension activities. Special attention was given to the challenge of diminishing the number of students that do not complete educational cycles, a great problem at the Secondary level of the System and also in the University.

Uruguay is a highly centralized country; main activities are concentrated in its capital, Montevideo; the rest of the country is referred to as the Interior; the traditional weakness of Higher Education in the Interior is a clear example of geographical inequality concerning access to education. In 2007 it was decided that UdelaR would make a great effort to face such inequality, thus contributing to the generalization of tertiary education in the whole country.

The guiding lines defined in 2007 referred also to concrete tasks concerning for example new ways of accessing Higher Education, diversification of teaching, including extension activities in the curricula, and fostering interdisciplinarity. Such lines were refined, corrected, enriched and on the whole systematically implemented during the following 7 years. The Reform was democratically defined and fostered.

In the following we summarize some actions that exemplify what was said above from the point of view of the *Developmental University*.

Active Teaching for Cooperating with the Generalization of Advanced Education

The teaching mission of a Developmental University aims at generalizing access to Higher Education, seen as lifelong advanced learning of increasing quality and increasingly connected with work, citizen activities, cultural expansion, and, in general, freedoms and capabilities for living lives that people value and have reason to value.

As it is usual in public universities where access is free from charge and not restricted, in UdelaR a historically relevant problem is the high proportion of students that abandon their studies. Such phenomenon reflects multiple causes, including social realities. For example 60 % of UdelaR's students work while 16 % of them are looking for a job; 36 % work more than 30 h each week. Such figures give a measure of the challenge of expanding access and success in Higher Education. But externally generated problems should not be an alibi for evading internal problems. What is needed is to make the University more like a home for students, to give them better teaching and opportunities to continue their studies, and to foster their role in learning processes. The following actions in that direction can be mentioned.

- Increasing the number and scope of careers that UdelaR offers.
- Changes in the teaching modalities, including making them more flexible and teaching the same course in different ways. Such changes aim to face the diversity of backgrounds, help workers that study, increase the quality of teaching, and make it more attractive for students.
- Creation of Initial Optative Cycles (IOC) as another way to start studying at the university. The usual way is to directly start a career. Students who don't have a defined vocation, or need to strengthen their basic background, or aim at widening their cultural scope, or want to get acquainted with a wide area of knowledge (health, social sciences, technologies, natural sciences, etc.) can follow the courses of an IOC related with the area that interests them. IOC are planned to take a year. After that the student can choose a specific career in that area, for which his studies in the IOC will be validated. This innovative experience is not easy to consolidate. Nevertheless it opens new possibilities and it helps to keep studying when vocations change without having to go back to High School.

- Expansion of teaching that in different ways combines attending classes with virtual activities.
- Direct and personalized backing of students, starting before they finish High School, especially by means of a special Program for Supporting Learning (PROGRESA for its acronym in Spanish). It started as an experimental program for helping new students and trying to diminish the high rate of dropouts in the first year at the university. The experience led to the consolidation of the Program that offers vocational orientation and personalized attention for facing different problems of life at university. PROGRESA has been called to help several national activities for supporting and orienting students.
- Related with the above mentioned Program, a considerable increase in the number of advanced students that act as tutors (or mentors) of new students. A year after PROGRESA started its activities, students that had been backed by it volunteered as tutors. Courses and workshops are organized by PROGRESA for would-be tutors. Even teachers attend such courses. Each year hundreds of students volunteer to act as tutors, in UdelaR and in other institutions. It is an example of solidarity of young people that in such way serve the community that pays their studies in a public and free university; it helps tutors themselves to learn while they try to teach or advice their younger colleagues; it appears as an important contribution to diminishing dropouts.
- The elaboration of general criteria for modernizing and updating teaching in the university as a whole. When the Central Directive Council passed the corresponding resolution, it also decided that the curricula of every career should be revised in order to combine those general criteria with the specificity of each career. Such resolution started a quite new process of dialogue and collaboration between different Faculties, Institutes, Departments, etc. Updating curricula has not been easy, particularly in the case of some traditional careers, where changes are particularly needed and could have relevant impacts. Nevertheless in 2014 it was evaluated that 90 % of the careers offered by the UdelaR had already been updated or the process would be completed soon according to the new general criteria.
- The Lifelong Education Program of the UdelaR, created more than 20 years ago, has been restructured aiming to deal with four interconnected tasks: (1) to relate work and education in general, seen as the main clue for generalizing advanced lifelong learning; (2) to back new ways of accessing tertiary education for persons who do not comply with the formal requisites but are able to take profit of tertiary teaching, eventually with the aid of some special courses; (3) permanent upgrading of university graduates; (4) connecting graduates with postgraduate education.

As said before, Uruguay needs a System of Public Tertiary Education where old and new institutions can join efforts. The actual situation shows a special weakness concerning technological short careers and, above all, the education of teachers for Primary and Secondary levels. The last is the responsibility not of UdelaR but of the National Administration of Public Education (ANEP for its Spanish acronym) that takes care also of Initial, Primary, Secondary, and Technical Education. Since 2005, the cooperation between UdelaR and ANEP has been increasing, particularly in the

technological area and mainly in the Interior as well as concerning postgraduate courses for teachers working in ANEP. But much more ambitious institutional innovations are needed, which require a deep involvement of the Executive and Legislative branches of the government.

First-Rate Research Related with Inclusive Development

The research mission of a Developmental University aims at expanding endogenous capabilities for generating knowledge—at local, regional, and national levels—in all the disciplines and in interdisciplinary activities, with international quality and social vocation.

UdelaR fosters (1) research in every knowledge area and (2) its connections with society in order to cooperate in using advanced knowledge for development widely understood. Those two aims—which can be called diversity and connection—may seem contradictory, and in fact at international level different strategies for each of them are frequently promoted. UdelaR's experience shows that every discipline and knowledge area can cooperate in attending a wide scope of knowledge demands. So diversity and connection can live together and even help each other (Bianco and Sutz 2014; this is the basic reference for this section).

UdelaR has a central council for research, the CSIC for its acronym in Spanish. During 2006–2014 its main programs were strengthened and new ones were started.

The R&D Program has been the main instrument since CSIC was created in 1992. It has backed 1.124 projects, 90 % of which generated communicable academic products.

The Program for relating the University with the productive sector was also created with CSIC. Later it was called Program for Relating University, Society and Production. It aims at linking all academic disciplines with a wide scope of external actors: private and public enterprises, cooperatives, trade unions, and organizations of civil society. It works in two modalities: in the first one, both UdelaR and the external partner finance the joint project; in the second one resources come only from the University, provided it has been shown that the partner can't collaborate financially and that the project is valuable for Uruguay. From 1992 to 2012 this Program financed 321 projects, 124 in the first modality and 197 in the second one. Among the 384 external partners 48 % have been private firms, 16 % public entities, and 10 % cooperatives.

The Program for Backing Research Groups is not common as an instrument in R&D policies; it is justified by the increasingly collective nature of research work, even if not formalized. From 2001 to 2010 the number of auto identified Research Groups in UdelaR increased by 57 %, reaching the number of 557. Those who are selected in a competitive call receive relatively important funding for 4 years.

During the last period, a special Program was created to foster high quality research in all of the University. That is needed because UdelaR is quite heterogeneous concerning research levels and, also, because UdelaR performs not less than two thirds of all Uruguayan research, so a weak research area in UdelaR is probably weak also in the country as a whole. This Program backs specific sectors that need

high level orientation, more qualified researchers, connections with stronger sectors, postgraduate teaching; in each case a specific project is elaborated, assessed, and implemented.

In 2008 the Program for Backing Student Research was created, stemming from a proposal of the Federation of University Students of Uruguay. Projects are presented by groups of students but elaborated with academic orientation. Six hundred and sixty seven proposals were presented from 2008 to 2012; 367 of them were accepted, involving 1570 students.

Its fundamental Law mandates UdelaR to collaborate with the public understanding of problems of general interest. A Fund for related research was created. Each year some relevant collective problems are chosen and a call is opened for projects that offer a plural study of such problems, elaborated for a general public. Several books, articles, workshops, audiovisual productions, web pages, and "citizens juries" have been funded. In many cases media coverage was significant and the "products" were widely used in different contexts (political, environmental, health, human rights, educational, justice, etc.)

ANCAP is the Uruguayan public enterprise concerned with oil and related issues. Since 2008 every year an ANCAP-UdelaR workshop takes place, where ANCAP's knowledge demands are discussed. A call for projects follows. Proposals are academically evaluated by UdelaR and then selected and funded by ANCAP. Projects stemming from every area of knowledge have been selected. Such positive experience inspired similar ones with the public Ports Administration and with the unitary confederation of trade unions.

The above mentioned workshops, as well as other Programs already described, have a general aim: to detect the knowledge demand that stems from different actors and sectors of our society, and to connect it with the knowledge and problem-solving capabilities of UdelaR. That is the specific purpose of the Centre for Industrial Extensionism, recently created by the Ministry of Industry, Mining and Energy, the Industrial Chamber of Uruguay, and UdelaR. It aims at helping especially smaller firms that usually, as innovation surveys show, are not able to detect their own needs concerning high level knowledge.

Science and technology policies seem to be increasingly aiming, at an international level, to connect research and innovation with social inclusion. UdelaR has been fostering this task since the great social crisis that Uruguay suffered in the first years of this century. In 2008 a new Program was created with that specific purpose. It tries to connect policy-makers, academics, and representatives of deprived sectors in order to cope with relevant social problems for which part of the solution can stem from generating and using new knowledge. In the first three calls for projects, thirty proposals were funded. In the first one, most external partners had weak capabilities for effectively implementing solutions for detected problems; in the second call such capabilities were significant in more than half of the cases; in the third call an ample majority showed medium or high related capabilities. This Program is an example of democratization of knowledge as fostered by the new University Reform that includes helping Uruguay to have an expanding national research with international quality and social vocation.

Cooperation with Society and the Role of University Extension

In a Developmental University, the mission of fostering the socially valuable use of knowledge aims above all to cooperate with a wide variety of actors in interactive learning processes that upgrade the capabilities for producing goods and services as well as for solving problems, with priority given to the needs of the most deprived sectors.

Some examples of that type of activities carried on in UdelaR have already been given. Here we concentrate our attention on extension activities.

Fostering university extension has been a flagship of the Latin American Movement for University Reform; its exact definition has always been hotly debated. During the period 2006–2014 extension was strongly promoted in UdelaR, quantitatively and qualitatively. Units of Extension exist nowadays in every Faculty or similar Academic Center and collaborate in the Extension Network of UdelaR. A plural vision of extension was proposed, thus facilitating the cooperation of different disciplines and "cultures" that coexist in the University. That vision stressed the "horizontal" traits of the cooperation between university sectors and external actors in processes where different types of knowledge interact and every actor learns while searching for solutions for collective problems, particularly those of the most deprived groups.

A main step was the decision adopted by the Central Directive Council of UdelaR on October 2010 of "curricularizing" the extension, that is, of including extension activities in the curricula of every career. It was stressed that extension and other external activities must be closely connected with the initiation of students to research and innovation activities.

To integrate teaching and research is the axis of the German ideal of university that anticipated the modern university. To integrate teaching, research, and extension is a fundamental trait of the Latin American ideal of socially engaged university. Each of the three functions can enrich the other two. Their integration—or interconnection—enriches the cooperation of the university with society at large.

"Spaces for Integral Formation" were created in many Faculties as educational proposals that integrate teaching, research, and extension in ways frequently connected with problem-based learning. In 2013 there were 149 such "Spaces" with 8634 students and 769 teachers.

Some central programs of UdelaR also have that "integral" trait. One example is the Program called "The Ceibo Flower" (the national Uruguayan flower) that backs the governmental "Plan Ceibal" which has given a laptop to every child in a public school of Uruguay. Every year, when "The Ceibo Flower" Program makes its call, hundreds of students volunteer to help children, their families, and school teachers to use laptops as educational tools. Teachers from UdelaR coordinate the work of those students and study with them different aspects of the social appropriation of technology.

A main aim for curricularizing extension is to improve technical and ethical education, by closely connecting students with social realities and problems, as well as offering them the opportunity of cooperating with different people in solving such problems. In that way students often discover social realities of which they were not

aware, learn things that they would have never learnt in a classroom, and collaborate with the society that pays the costs of a free Higher Education.

The increasing participation of students and teachers in extension activities has expanded the collaboration of UdelaR with several "popular" actors—including trade unions, cooperatives, broken firms that have been recovered by their employees, associations of small producers—as well as with public organisms in charge of social policies. This is fundamental for a University that aims at combining academic quality and social engagement.

On Academic Structure

The traditional structure of Latin American universities has been characterized as "tubular," because it was organized in separated professional Faculties and offered students only the possibility of following the "tube" of a career weakly connected with other studies. Thus it did not facilitate interdisciplinary work neither the combination of discipline-based teaching with problem-based teaching. These issues were not really addressed by the University Reform started in Latin America during the first decades of the last century.

The new Reform in UdelaR tried to build a "bidimensional" structure that combines faculties and disciplines with interdisciplinarity and problem-based work. The main step in that direction was the recent creation in the Interior of Uruguay of Regional University Centers; in each of them different areas of knowledge are cultivated in closely connected ways; in particular, students from different careers share courses and several research groups are focused on regional problems.

With a similar aim the "Interdisciplinary Space" of UdelaR was created. It fosters the organization of teams that try to cope with issues that cannot be handled only in disciplinary contexts, as Climatic Change or Childhood and Poverty or Coast Management; it also backs careers that involve different areas of knowledge, as well as the integration of university functions.

On University Governance and Management

The Reform aims at proving that democracy and efficacy can back each other. That requires that the Central Directive Council of UdelaR, with more than 20 members, can concentrate its attention on the most difficult problems and the strategic decisions. It also requires enabling Faculties and other academic Centers to decide on what specifically concerns them. Those are not simple issues, but some relevant changes have been democratically decided and effectively implemented in a comparatively short period.

A better management of UdelaR has been one of the purposes of the Reform. A first clue for that was trying to involve employees both in concrete changes and in

decision processes. A second clue was to connect their work with learning opportunities even at tertiary level, for example by creating a technical career in University Management addressed to UdelaR's employees.

On Decentralization and Regionalization

Among recent changes in UdelaR, its new strategy for extending Higher Education to the Interior of Uruguay is the most appreciated one by citizenry at large. That strategy aims at fostering the contribution of UdelaR to regional development. It is not seen as a process directed from the "center" but as one that gives a fundamental role to actors in each region, both internal and external to the University. Thus such strategy for *decentralization and regionalization* is an example of the guiding lines of the new University Reform—and particularly of the idea of educating in democracy—so we shall describe its main three components with some detail.

The first component is the elaboration of *Regional Programs of Tertiary Education*, taking into account the needs and possibilities of each region, and associating in that task the institutional and social actors willing to cooperate. Such Programs should help to build the new institutions of the needed National System of Public Tertiary Education. When the System is built, the Regional Programs should belong to the System as such and contribute to its true systemic character. Since social inequality in accessing Higher Education is compounded by geographic inequality, UdelaR has tried initiating a version of those Programs in some regions by the joint work of educational institutions, local governments and other public actors, productive sectors, and civil society organizations that promote the expansion of Higher Education. Those first versions of the Regional Programs of Tertiary Education have guided the creation of many new careers and teaching modalities of UdelaR in the Interior, some of them unique in the whole country. From 2007 to 2012 the number of UdelaR's students grew around 14 % in Montevideo and 65 % in the Interior.

The second main component of the strategy for decentralizing and regionalizing the UdelaR has been the creation of the so-called University Development Poles. In each region priorities for teaching, research, and extension are defined. As it happens with the Regional Programs previously commented, regional actors—internal and external to the University—have a fundamental role in the definition of priorities. Then high level academic groups are created to work in connection with such priorities. They contribute to the integration of university functions and to overcoming the academic "tubular" structure, particularly because each group gives courses that are taken by students of different careers. Since those academic groups work in relevant regional issues, they also contribute to fostering interdisciplinarity and to relating problem-based learning with teaching by disciplines. Such University Development Poles have made a decisive contribution to a quite recent achievement: for the first time in the history of Uruguay, high level research is done in the

Interior of the country, not only in agrarian issues as has happened for many decades, but also in every wide area of knowledge.

The third main component of the strategy for decentralization and regionalization is the creation of the University Regional Centers. It has already been mentioned when referring to the program of the new Reform for transforming the academic structure of the University. The consolidation of these University Regional Centers will be the main change in the academic structure since the UdelaR was created based on professional Faculties. As said, the Regional Centers' students have careers corresponding to different areas; students of different careers meet in some common courses; teachers of different disciplines cooperate in the same career. Thus education is potentially richer and interdisciplinary collaboration less difficult.

Each University Regional Center supports the corresponding Regional Program of Tertiary Education. The academic groups related to University Development Poles work in the Regional Centers. Each main component of the strategy helps to consolidate the other two.

In 2007–2008 UdelaR decided to start building Regional Centers in the Northwest, the Northeast, and the East of Uruguay. That means building capabilities for academic tasks, governance, and management. It can be done neither from one day to the next nor simply by a resolution of the central authorities. It needs to combine the initiative of people directly involved with the process in each region with the support of the University as a whole. In 2013, following the advice of the consulting organisms of UdelaR in the Northwest and in the East, the first stage of the institutional building process was considered to be finished in those regions, while some more time is yet needed in the Northeast. In the elections of March 26, 2014, students, teachers, and graduates chose as usual their representatives to the collective organisms that govern the UdelaR and its Faculties; that also happened in the case of the Regional Centers of the Northwest and the East. Participatory democracy in the University at a regional scale has been widened.

On Graduation Trends

Each year approximately 18,000 people finish Higher Secondary Education in Uruguay; that number has not changed much for a long time. All of them can apply to take courses in one or more of the careers of UdelaR. Almost 12,000 people effectively start studying each year a career in UdelaR. Nowadays around 6000 people graduate each year in UdelaR. Both numbers have been increasing, especially the second one. Comparing the number of those who effectively started studying some years ago with the last data concerning the number of graduates, the graduation rate is approximately 58 %. That rate is not less than in private universities, where studying is not free.

Let us give a quick look at the annual evolution of the number of graduates in UdelaR. The annual average of graduates was 3.240 in the period 1986–1988. It was 4.184 in 2004–2006. In 2011, for the first time in its history, UdelaR had more than 5000

graduates. In 2012 it had more than 6000 graduates. In 2011–2013 the annual average of graduates was 6.032, 44 % more than in 2004–2006 and 86 % more than in 1986–1988.

What can happen in the future? Of course, we don't know. But numbers say something quite important: if tertiary graduation increases steadily in private and public institutions at the rate it has increased in UdelaR during the last 10 years, then not less than 50 % of children born today in Uruguay will have a tertiary level of education. The generalization of advanced education would be a reality.

Inclusive development requires, especially in peripheral countries, that each generation can reach a substantially higher average level of education than the generation of their fathers. The father and the mother of 54 % of those studying today in UdelaR did not have the opportunity even to start studying at a tertiary level.

Summing Up

In 2007 the Central Directive Council of UdelaR defined the guiding lines for trying to reform the University. In June 2013 the Central Directive Council unanimously approved a document where changes and perspectives for UdelaR in the period 2005–2020 are analyzed. Its concluding paragraph asserts that the effective attention to the priorities stated in that document will consolidate the changes in the making, so that by the end of the current decade a first stage of the new University Reform will be ending and the fundamental contribution of the University to Development will be confirmed.

Possibilities and Difficulties of the Developmental University: Some Lessons from an Experience

In the concluding section of Chap. 3 by Arocena and Sutz in this book, several factors that shape the possibilities of developmental universities were discussed, stressing that their actual influence must be studied in each specific context. Here, in a self-contained way, we go back to that discussion in the context of the experience previously described. The guiding thread is a question posed in that chapter: "who are the stakeholders? That is, which groups, strata or movements, in universities and in society at large, are such that their material and ideal interests can be connected with fostering the developmental traits of universities?"

On Lifelong Advanced Education

The first task of a Developmental University is to reshape teaching in order to contribute to the generalization of lifelong advanced learning. Such priority connects with social aspirations for more education; thus it can obtain several supports. That

happened with the decentralizing transformation of the UdelaR: it connected with the interests of many concerning access to tertiary education in the Interior of Uruguay; it obtained specific supports from the national government, several local governments, and social organizations; it was fostered by many actors, including academics that saw in that transformation new and better opportunities for their own work and for cooperating with society.

Nevertheless, the government of Uruguay has not assumed the aim of generalizing tertiary education. But policies for Higher Education in Brazil and, more recently, in Chile as well as traditional open access to public universities in Argentina suggest that it is not impossible that such an issue becomes a priority in the south of Latin America.

By widening access to Higher Education the Developmental University can connect with the interests of many people. But it is known that not a few of those who got professional titles in free universities with open access, which they defended as students, change as graduates and push for restricting access to universities in order to limit the number of their competitors in their own profession. This is related with ethical issues but also with the actual role played by advanced knowledge in each country.

On Knowledge Demand

Naturally, the possibilities of a university that wants to expand teaching, research, and social use of knowledge in order to contribute to inclusive development are shaped by the role of knowledge in its own society. In Uruguay, as in most peripheral countries, the demand stemming from economic dynamics for advanced knowledge is very weak; it is concomitantly very weak concerning occupational possibilities for natural scientists and related professions; and it is not strong concerning high qualifications in general. If that demand is in general weak, it is difficult to think that the project of generalizing lifelong advanced learning gets strong and lasting support.

In particular, the weakness of market demand of advanced knowledge poses big problems for improving the production of goods and services in general. UdelaR has for long tried to help in coping with such problems. Some of the related instruments—as the Program for Relating University, Society and Production or the recent creation of a Center for Industrial Extensionism—were described in the previous section.

If the weak demand stemming from economics dynamics in the peripheries is not addressed and compensated in several ways that include supporting the potentially wide social demand of advanced knowledge and high qualifications, development will be difficult in the reality of the twenty-first century. And the possibilities for universities to contribute to development will be small. But the potential contribution of advanced knowledge and high qualifications to improving the quality of life—particularly of deprived people in peripheral countries—is big. If the State fosters such social demand, it will widen the spaces for advanced learning, endogenous research, and social use of knowledge. In that way, it would be possible to consolidate a strategy for inclusive development with a pattern of specialization in activities related to basic needs—health, housing, food, environment, etc.—and with high added value of knowledge.

In turn, if something like that happens, the Developmental University could reflect the interests of important social groups; it could be backed by those sectors that want an inclusive type of development; it could be fostered by actors engaged in promoting such development, particularly in some parts of the State.

As one of its several small contributions to converting such possibilities in realities, the UdelaR has implemented the Program of Research and Innovation oriented to Social Inclusion which was described above. In the Uruguayan public sector some actors collaborated with that Program. But the government as such showed no interest in fostering similar activities with a wider range as a state policy.

On Explicit or Implicit Prevailing Public Policies

Here we meet the fundamental issue of the prevailing public policies and their ideological frameworks. In the periphery it is not easy to find public policies that foster development as the knowledge-based expansion of capabilities and freedoms. In turn, as a rule innovation policies are widely separated from social policies.

In some cases innovation policies are separated even from educational policies. Thus a gulf is opened between learning in creative contexts (for example those that integrate teaching, research, and extension) and working in contexts that systematically demand solving nonroutine problems, that is, innovating. Connecting learning and innovation is a main clue for development, as stressed for example by the National Systems of Innovation approach to development. Disconnecting learning from innovation generates wide spaces of routine type learning and small spaces of encapsulated innovation. When that happens, projects for building a Developmental University usually express the explicit interests of a few, have weak supports, and are fostered by small or transient movements.

When there exist national policies for knowledge-based inclusive development, with a solid ideological support, proposals akin to the notion of Developmental University can have lasting and quite relevant positive consequences. In the opposite case, that is, when such policies are absent, attempts at fostering the developmental role of universities will probably have a limited and transient influence; nevertheless sometimes their concrete achievements may be valuable in themselves and also as an example of what could be obtained with wider and more "systemic" attempts. In both cases internal factors are of course also relevant. We now turn to consider some of them.

On the Academic Reward System

The orientation of teaching, research, and collaboration with external actors that are carried on by academics working in universities are deeply influenced by the institutional criteria for appointing and promoting them. Priorities, agendas, and working modalities are shaped by academic reward systems, which reflect both internal and external influences. Such systems usually give high recognition to international quality

research, but less so to the combination of that quality with social vocation; the latter is a difficult and time-consuming task. Such task is related to better teaching an increasing number of students, to choosing research problems that may not be mainstream but are relevant nevertheless, to cooperating with different actors in interactive learning processes. In a nutshell, prevailing academic evaluation systems do not really foster the socially valuable use of knowledge in general nor research in every relevant topic.

A strong effort was made in UdelaR for elaborating a development-oriented evaluation system. As a result of wide consultations, a preliminary consensus was reached. It can be summarized up as follows.

Academic evaluation should be a tool for systematically improving the level of university activities. It should foster a deep knowledge of the specific discipline, of its connections with other realms of culture, and of its relations with society at large. Evaluation patterns should consider, in a plural and integrated way, teaching, research, extension, and cooperation with society as well as directing and coordinating academic activities and participating in the government of the university. Capabilities to be promoted include those needed for: (1) high level teaching in different contexts in ways that attract different students and allow them to be main actors in learning processes; (2) original research in relevant issues, with special attention to team working and opportunities for new researchers; (3) contributing to the public understanding of collective problems and their solution in interactive and collaborative processes.

Concerning research evaluation, it was asserted that the specific characteristics of each knowledge area should be taken into account, in both disciplinary and interdisciplinary aspects. The different ways of validating both quality and relevance of knowledge production should be considered. The aim is to gauge the substantive individual and collective contributions to knowledge generation and socialization. In particular, support should be given to the risky options of working in new and difficult problems with no guaranteed results, with the aim of opening original ways for generating knowledge and for its socially valuable use. Such options can create "schools"—that is, original traditions and research programs—that contribute to cultural autonomy concerning high level creation.

However, the initial consensus on evaluation criteria was not ratified. Different positions were apparent. Many argued that making emphasis on the integration of functions and on cooperation for the socially valuable use of advanced knowledge would be detrimental for research. From our point of view the contrary happens: if the connections between generation and socially valuable use of knowledge are fostered, both are favored; in particular, the research agenda will be widened, endogenous research will be enriched, and social support for research will expand. But this point of view was not backed by the majority of the university researchers.

On International Academic Relations

University activities are also highly influenced by international academic cooperation, which is fundamental for a Developmental University, because it must connect knowledge of the highest level with inclusive development. Nevertheless, such

cooperation usually fosters the dominant conceptions of university and traditional evaluation systems. Moreover it often has a "North–South" character, when differences in economic and cognitive resources are reflected in the priorities, the evaluation criteria, and even in the division of labor. Thus Southern universities need to have academic teams with level and energy enough for cooperating at international level without subordination, being able to incorporate their own problems and approaches to the agenda of joint work.

For more than 20 years UdelaR has privileged, in the international realm, its work in the "Association of Universities Montevideo Group" that includes the most important public universities of the Southern Cone of America. Strengthening such Association is a particularly important way among others of, first, expanding "South–South" cooperation, which in turn strengths the position of the "South" in academic relations with the "North" and, second, defending at the international level the ideal of socially engaged university. In such a context, ideas akin to the approach elaborated in this text were presented by UdelaR. Since 2012 the Association of Universities Montevideo Group organizes periodically a regional Forum on University Reform.

On Academic Governance

Generally speaking, given academic traditions and the type of achievements that—de facto and de jure—are most frequently awarded nationally and internationally, academics as such are more dissuaded than impelled to work with a developmental perspective. As a body, it is difficult to think that they support such perspective. That in turn tends to be reflected in what universities do and don't do. Thus the issue of university governance appears at the forefront.

A Developmental University needs an institutional framework that: (1) fosters high level academic work; (2) opens some possibilities of combining, in a relatively coherent way, autonomous initiatives of universities, connections with civil society, and cooperation with public policies when oriented towards inclusive development; (3) avoids subordinating universities to the interests of external or internal elites.

Institutions have to do with "playing rules," formal and informal. Thus the institutional framework includes the formal procedure of government and administration, as stated by laws and regulations, as well as the informal proceedings shaped by interests, traditions, knowledge, and values. Even a favorable institutional framework does not guarantee an engagement of the university with inclusive development. The last needs also an ideological and political construction that will be molded by the "outside" as well as by the "inside" of the university. Thus, it will always be contingent. When knowledge is the base neither of economic dynamics nor of public policies for development, such construction even if temporarily successful will inevitably be weak.

Governance in UdelaR is shaped by its autonomy and by the "co-government" of students, teachers, and graduates. Autonomy and co-government are consecrated both

by law and by tradition, in a way that opens spaces for some type of participatory democracy. That is not the governance fostered by the models for university reform that prevail in the world. So, when the expansion and transformation of the UdelaR in the Interior of Uruguay is being recognized at a national level, it deserves to be stressed that its system of governance made possible: (1) to elaborate a strategy for decentralization and regionalization with wide support; (2) to open spaces for many innovations stemming from academic groups directly involved in the process; (3) to obtain multiple collaborations "at field level" for building new learning and innovation networks.

In a long run perspective, UdelaR's system of governance based on autonomy and participative co-government has been the basis for promoting free and nonrestricted access to Higher Education even when that was not the official policy. As a result graduation rate in UdelaR increased more than 700 % in the last 50 years while the population of Uruguay increased less than 30 %. Democratizing education and knowledge is the heart of the Latin American ideal of a socially engaged university. The related system of governance has had its ups and downs. But it can be the institutional framework that facilitates important changes in a context of educating in democracy. That has been shown time and again, for example by the process of changes that recently took place in UdelaR.

On Student Attitudes

The developmental possibilities of universities are highly conditioned by prevailing academic and student attitudes. Concerning the last, it always greatly matters what do students in general expect and demand from universities. The motivations of those students that actively involve themselves in decision-making processes also matter in some cases; for example, public Latin American universities have often shown an important influence of student movements that are active in the co-government of universities as well as in social action in general.

The Federation of University Students of Uruguay elaborated in 2006 a document entitled "Twelve Premises for a University Reform" that was a main general reference for the process of changes we have been describing. Significant variations in the orientation and influence of the Federation of University Students of Uruguay took place in subsequent years. Nevertheless, during the period 2006–2014 as a whole, the student movement was the main collective impeller of the attempted Reform.

On the Attitudes of Social Movements Concerning Advanced Knowledge

In many situations, student movements have real influence in the relations between university and society. That happens in Uruguay, where the Federation of University Students has had close ties with trade unions for more than half a century. In turn,

the Federation of University Students and extension activities have historically been the main promoters of the relations of UdelaR with several social actors. With that background in recent years some tasks were strengthened and diversified, for example special educational programs addressed to collectives of workers or small producers. And some new activities were carried out, for example the joint research program with the unified trade union movement of Uruguay.

In one way or another, such tasks aim at democratizing knowledge. The lesson stemming from that type of experience is that the possibilities of a Developmental University are highly dependent on the orientations of social movements and especially their attitudes towards advanced knowledge. Such attitudes usually include examples of estrangement, distrust, hostility, more or less informed positive expectations, and even the will to get involved in related policies and actions.

Beyond Universities

The last issue brought us back to the "outside" of the university. We had previously discussed the influence of public policies on the developmental possibilities of universities. Concerning civil society, a main influence on the same issue stems from prevailing orientations of social movements and in particular their attitudes concerning advanced knowledge. But this goes well beyond the issue of the Developmental University. Attitudes of social actors towards knowledge are a crucial challenge for strategies oriented to an inclusive development that, with Amartya Sen, see people not as patients but as agents.

References

Arocena, R. (2014). *Trabajando por una Segunda Reforma Universitaria: la Universidad para el desarrollo. Memoria del Rectorado 2006–2014*. Montevideo: Universidad de la República.
Bianco, M., & Sutz, J. (Coord.). (2014). *Veinte años de políticas de investigación en la Universidad de la República: aciertos, dudas y aprendizajes*. Montevideo: CSIC-Ediciones Trilce.

Chapter 9
Universities and Innovation in Tanzania: Social or Commercial?

Bitrina Diyamett and Heric Thomas

Abstract There is currently a major debate on the role of universities as producers of knowledge for development in their societies. The central issue is that universities are increasingly moving towards more commercially oriented knowledge production rather than social—a condition producing inequalities and environmentally undesirable effects. And therefore a need to reorient universities towards production of knowledge that is more socially useful is called for. However, while most of the knowledge produced by universities in developed countries is driven by markets, those by universities in poor countries—because of their poverty—seems to be driven by public actors such as donors and governments, and therefore we would expect knowledge production to be more socially oriented. This chapter endeavored to validate this point by looking at innovation-related programs at two universities in Tanzania. The analysis shows that most of the innovation programs offered by these universities are more inclined towards social orientation than commercial. Consequently, the question is raised whether it makes sense to focus the debate on social innovation for poor countries in the absence of effective systems for commercial innovations that has brought about most of the human progress in developed countries.

Keywords Tanzania • Universities • Knowledge • Social innovation • Commercial innovation • Social entrepreneurship

Introduction

As globalization and competition among nations gather momentum, all countries of the world—developed and developing alike—are putting ever more emphasis on knowledge-based production where universities have become central. The centrality of universities in today's economic and innovative activities is best explained by the following quotation:

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…Universities have undertaken a new role recently—that of an economic force, firstly by their sheer size and secondly by their knowledge transfer and spin out commercial activities. If I was to give one example that encapsulated the changes I wish to highlight, it is this. I was recently on a trip to Japan that included a meeting with the British ambassador and two members of his staff that represent 'Invest UK', the branch of civil service which is charged with attracting inward investment from foreign companies. During the meeting, the two from 'Invest UK' told us that one of the important points they used in attempting to attract Japanese companies to invest in particular location was the proximity of that location to a higher education cluster because of the potential synergies. As one of them said" *we sell higher education now, not subsidized green field sites"*[1] (emphasis added).

Although the impact of market-led innovations is normally spoken of in terms of growth and competition, their impact—as we will shortly discuss in this chapter—is not limited to issues of growth and competition alone, but also at the heart of the whole issue of overall development and welfare of nations, addressing many socially important issues such as diseases and health systems in general, good housing, and efficient transport systems. Innovative and competitive companies are good for their national welfare: apart from contributing to the GDP growth of their countries, they increase employment potential, and by implication, GDP per capita incomes, which overall brings down the incidence of poverty and destitutions in the countries.

However, the social value of market-driven innovation mentioned above notwithstanding, there is indication that such kind of innovations seem to now be producing inequalities and environmentally undesirable effects such as climate change and environmental degradation. This fact is well explained in the introductory part of this book. The socially undesirable effect of innovation seems to have moved major discourse on innovation from economic to social and environmental—producing radically new concepts such as social innovation and inclusive development, which is the focus of this book. Given the centrality of universities in innovation, the fact that people are now "selling" higher education must have prompted the current and more recent discourse on social innovations in relation to universities, calling for the reorientation of the role of universities in innovation. In so doing however, there is need to first take stock of what currently exists in universities in different contexts because there is a notable difference between the forces that are pushing universities towards their current mission on innovation in developed and developing countries. For developed countries, market forces seem to have taken an upper hand in aligning university research towards innovation in private firms, somehow undermining socially relevant innovations. To the contrary however, for poor developing countries, the university agenda on innovation seems to be shaped not by the market forces, but by the governments and donors, and especially donors. Since most donors are concerned more with social and humanitarian issues than economic growth, we assume that innovation by universities in poor developing countries might be more of social than economic and market driven, and therefore are not as yet facing challenges that are being faced by the Northern universities.

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[1] A speech delivered by the Vice-Chancellor of Bristol University, Professor Eric Thomas, to a meeting of The Bristol Society in the Great Hall of the Wills Memorial Building on 25 September 2002 (cited in Diyamett 2008).

Using the case of Tanzania, this chapter endeavors to shed more light on the above assumption by looking at research and innovation-related programs in major universities in Tanzania with the view to determine major focus of innovation-related programs—social or economic and market driven. The major objective is to try to push the debate on universities and innovation to an alternative direction—other than the one similar to that of developed countries. The rest of the chapter is structured as follows: Section "Conceptual and Theoretical Framework" will focus on theoretical and conceptual issues on innovation. While the major focus will be on social innovation, appreciable time and space will also be given to the subject of innovation in general. Section "Popular Definition of Innovation: Commercial" is an empirical section; it will look at research and innovation-related programs at major universities in Tanzania, with the view to determine the extent to which these are social innovation programs. The section will also endeavor to determine whether or not focus on social innovation alone is sufficient for inclusive development and poverty alleviation. Finally, Section "Summary and Concluding Remarks" will present conclusions.

Conceptual and Theoretical Framework

This section conceptually and theoretically deals with broader issues on innovation, bringing into the picture all types of innovation and their social and economic relevance. The major objectives is to construct lenses through which we can look at innovation programs at universities in Tanzania, determining whether these are social or commercial, and propose how to best take forward the discourse on innovation and universities in poor developing countries such as Tanzania for social and economic development.

Popular Definition of Innovation: Commercial

Innovation is a popular concept; in most cases rightly associated with positive human traits such as creativity and dynamism, and therefore success in life. For this reason many people like to be associated with it—unfortunately without really caring about its true meaning and its essence. This is a very unfortunate situation because innovation does not just happen; it requires a conscious effort. According to Drucker innovation consists of the purposeful and organized search for changes, and the systematic analysis of the opportunities such changes might offer for economic or social innovation (Drucker 1985). This situation requires a clear understanding of innovation. However, while ordinary people have taken innovation for granted, innovation scholars have attempted to define it, albeit in different ways. In this subsection we try to revisit some popular definitions of innovation with major objective to arrive at a definition that is most representative. The section will also try

to explain forces behind appearance of innovation, because, as we will later make it clear, we believe that the major difference between social and commercial innovation is in the forces that drives it.

The underlying criterion that defines innovation is novelty—scholars have unanimous agreement on this aspect, although there is some disagreement in literature on the level of novelty. For some, for something to be referred to as innovation, the thing has to be completely new, i.e., new to the world; but for others, even just adoption or small changes in existing technologies warrant to be an innovation. This broader definition of innovation also includes the non-technological aspect of innovation such as market and organizational innovation. Many definitions of innovation have a commercial connotation; popular ones distinguish innovation from invention where, while invention is defined as production of a new marketable idea, innovation is the act of putting this new idea into the market place. For instance, according to Acs and Audretsch (1990), innovation is a process that begins with an invention, proceeds with the development of the invention, and results in introduction of a new product, process, or service to the marketplace. Inclusion of invention in the definition of innovation has to a large extent led to the most popular confusion about innovation, especially for poor countries such as Tanzania and other African countries, where innovation is more related to the activities of the R&D organizations than those of the commercial firms to the extent that innovation is almost synonymous to research. In line with this, governments' policies on science, technology, and innovation are basically about scientific research.

Along with this commercial connotation, the most popular definition of innovation, which we think has combined all other definitions and types of innovation into one whole, is the one by Archibugi et al. (1994)), which describes innovation to be a successful creation, development, and marketing of new goods or successful application of new techniques or ways of working that improve the effectiveness of individuals and organizations. Most important in this definition is also *purpose* of innovation: to improve effectiveness of actors, which in economic and commercial terms is to improve effectiveness of commercial entities such as firms. The word effective here can be interpreted as increasing the productivity, which is a major contribution of innovation in economic development. As economist Paul Romer states, "no amount of savings and investment, no policy of macroeconomic fine-tuning, no set of tax and spending incentives can generate sustained economic growth unless it is accompanied by the countless large and small discoveries that are required to create more value from a fixed set of natural resources" (Romer 1993:345). Such a conclusion is just one among many ever since the economists discovered the missing factor in productivity growth that was hitherto measured by the traditional production function (the amount of capital and labor), where later on when the rate of change of labor productivity and capital intensity over long period of time was measured, they discovered that they were not simply proportional—there was a missing factor that was later attributed to improvement of technology (innovation) that was at the same time taking place. As technology improved, it amplified the effect of each addition of capital and thus the productive power of an individual worker. Innovation is found to be important for such productivity increase,

and it is responsible for tremendous productivity increase and economic growth in developed countries. For example, what required 1 h to produce in 1890 now takes a worker in developed economies about 7 min to produce (DeLong 2000); innovation has also been found to be responsible for whole new industries, and along with this, increased employment opportunities, which in turn led to eradication of poverty.

Forces Behind Commercial Innovation and the Role of Entrepreneurs

The discovery of the power of technological change (innovation) in productivity increase and economic growth has led to the massive work on sources and forces behind innovation, measured in terms of amount of literature we are today witnessing on this crucial subject: from technology push and demand pull models, to the interactive model; and finally to the concept of national systems of innovation, the major objective being to be able to influence innovative activities—both in terms of direction, speed, and amount. A comprehensive review of all these models seems to reveal the centrality of the market forces in innovation, which is evident from the debates on two early models of innovation, namely technology push and demand pull—determining which forces have the upper hand between the two. According to t**echnology-push,** innovations are believed to be triggered by basic research in science, resulting in a widespread marketing of new products or widespread use of a new process, while according to **demand-pull,** innovations are believed to in some sense called forth or triggered in response to demand for the satisfaction of some consumer needs (Coombs et al. 1987; Rosenberg 1982; Rothwell and Zegveld 1985). From the extensive debate on whether it is the technology push or demand pull that is largely responsible for triggering innovation, there seem to be unanimous agreement that market forces are of crucial importance for the appearance of innovation in economic activities. Even with the current conceptual framework on the national systems of innovation that emphasizes innovation to base on interactive linkage and learning, the role of interaction with users (buyers) has taken an upper hand. It is therefore safe to conclude that demanding users or market is extremely important in innovation, and it is where the major forces for innovative activities is coming from. But who are the major innovation actors? Who are the champions in bringing innovation to the market? To a large extent these are individuals referred to as entrepreneurs, where the word Entrepreneurship—just like innovation—differs between economic and social entrepreneurship. In an economic context the Merriam-Webster Dictionary defines an entrepreneur as one who organizes, manages, and assumes the risks of a business or enterprise. Others have defined an entrepreneur as someone who starts his/her own small but new business. According the Drucker, an entrepreneur is someone who sees a change and exploits it economically—actually not only waiting to see it, but they actively go looking for it (Drucker 1985). They aspire to break any institutional barriers to the introduction of

a new idea in economic life because of the expectation of a large profit. Being champions of introduction of new products into the market, entrepreneurs are important for innovation—especially the radical. Entrepreneurs therefore boost economic growth by introducing innovative technologies, products, and services. Defining this way, important innovations are therefore brought to the market and their widespread use through private initiatives.

The Concept of the Social Innovation: Meaning and Essence

Two aspects will briefly be discussed within the essence of social innovation: what brought about recent focus on social innovation—largely debate on inclusive development. The second aspects is social entrepreneurship—just like the use of the concept in economic terms, social entrepreneurs are responsible for facilitating social innovation.

Social Innovation and Inclusive Development

The discussion of innovation in relation to social issues is a relatively new phenomenon and to a large extent has been triggered by the debate on inclusive development—best defined as a pro-poor approach that equally values and incorporates the needs and contributions of all stakeholders—including marginalized groups in the development process. As an activity, inclusive development means development that enhances people's well-being by advancing the equality of opportunity for all members of society, with particular attention to the poor, the vulnerable, and those disadvantaged groups normally excluded from the process of development (Gupta et al. 2014). In most cases the development process has tended to exclude many people because of their gender, ethnicity, age, sexual orientation, disability, or poverty. The effects of such exclusion are staggering and deepening inequalities within and across countries. While inequalities between developed and poor countries are the major developmental issue globally, there are glaring inequalities within countries in poor countries as well. For instance, Tanzania—which is at the low category of the human development index (HDI)—had a value of 0.488 in 2013, and is placed at position of 159 out of 187 countries and territories. However, if the level of inequality within the country is taken into account, this index is reduced to about 0.356.

It is argued that such inequalities have brought about pressing social challenges such as unemployment, increasing poverty levels, and climate change (European Community 2011). It is thought that these social challenges have been brought about by overemphasis on market-driven innovations that excludes the less able section of the society from participating in the market economy, a situation that have brought about inequalities—both within and between countries and regions. As a result, scholars and policy makers alike are inventing and focusing on the concept of social innovation, which is still in the making in terms of definition and

conceptual understanding. Here are three leading definitions and understanding that already exist in literature:

1. A novel solution to a social problem that is more effective and efficient than compared to the existing solutions and for which the value created accrues primarily to society as a whole rather than private individuals (Phills et al. 2008).
2. New ideas (products, services, and models) that simultaneously meet social needs and create new relationships or collaborations. In other words, they are innovations that are both good for society and enhance society's capacity to act (European Communities 2011).
3. Social innovation is an initiative, product or process or program that profoundly changes the basic routines, resource and authority flows or beliefs of any social system (Westley 2008).

From the above three definitions, a social innovation seems to be of two types: new products, services, and models that are targeted at meeting certain social needs/problem rather than individual gain; and those that create new social order, e.g., relationships, interactions, and believes, that in general empowers the marginalized. This is more or less like the distinction between technological and non-technological innovation as it is defined for innovation in economic context. This view is also shared in Phills et al. (2008) where social innovations are defined in terms of not only products, production processes, or technology, but also new ideas, a piece of legislation, a social movement, an intervention, or some combination of these. The problem or what is not yet clear, in the context of social innovation, is the relationship between the technological and non-technological innovation. We know from literature that there is a very close relationship between technological and non-technological innovations for innovation in economic context. For instance, there is a very close relationship between product and market innovation, and process and organizational innovation. But reading from above definitions, it seems there is no clear relationship between technological and non-technological innovation in the case of social innovation. It is not very clear, for instance, how a social movement or changes in legislation are related to technological innovation in a social context. It also appears that social innovation, in the context of non-technological innovation, is not a new phenomenon. Such changes are constantly occurring, and have been taking place since time immemorial in societies. In fact some scholars have been referring to social innovation solely to be non-technological in nature. For instance, Hart et al. (2014:2), when discussing the South African White paper, state, "…drawing on the experience of developing economies in Asia and Latin America, the White Paper acknowledged that an exclusive focus on technical innovation was insufficient and the social innovation should be included in the innovation strategy…"

The above quotation clearly excludes technical innovations of any form from the definition of social innovation. The question is, is it possible to take account of all of non-technological social innovations and evaluate their social consequences? This seems to be a major problem in an attempt to capture and pin down the concept of social innovation.

Another problem in defining and differentiating social innovation from market innovation is their close relationship. According to Phills et al. (2008), many commercial and market innovation create benefits for society, primarily through productivity increase and creation of employment, and therefore raising incomes of individuals in a society. According to them some market innovations generate social value above and beyond their obvious economic impact, citing examples such as computers that have enabled information exchange in society; automobiles that have enhanced movement from one place to the other—uniting people who would otherwise rarely see each other; and pharmaceuticals that have saved many lives, raising life expectancy in many societies. In addition, according to Ahlstrom (2010)—who has convincingly written on the significance of economic growth and how it matters to firms and society—innovative profit-seeking firms are extremely important for the general well-being of societies: "The social good is well served through new business innovation, which has created millions of jobs, generated hundreds of billions in revenue, and improved people's lives by creating numerous useful products and services and making them available to an increasingly large proportion of the world's population" (Ahlstrom 2010:12). The evidence on this can also be depicted from the positive relationship between social and economic indicators worldwide: where economic indicators are on the higher side, the social indicators are also, and vice versa. Citing other scholars such as Lucas (2002, 2003), Parente and Prescott (2002), Romer (1986), and Maddison (2006), Ahlstrom shows that economic growth is a considerably more important mechanism than foreign aid and welfare redistribution programs in improving people's well-being, particularly over the long run.

The above notwithstanding however, according to Phills et al. (2008) such society benefits do not make such innovation to pass for social. According to them, innovation is truly social only if the balance is tilted toward social value or benefits to the public/society as a whole, rather than private value for entrepreneurs, investors, and ordinary (not disadvantaged) consumers. In regard to this Phills et al. (2008) have perhaps said something that is of critical importance for poor countries of the South:

> We want to differentiate social innovations from ordinary innovations because the world is already amply equipped to produce and disseminate ordinary innovations. It is only when markets fail—in the case of public goods—that social innovation becomes important as a way to meet needs that would not otherwise be met and to create value that would not otherwise be created (Phills et al. 2008:39)

The above quotation is very important in differentiating between social and commercial innovations, especially for poor developing countries, because—unlike the developed countries—market seems to have also largely failed for commercial innovations in these countries. Given that—as explained above—commercial innovations are extremely important for social needs, isn't there a need for intervention—just as it is done for social innovations? Will the sole focus on social innovation in the absence of commercial innovation lead to true development? These are some of the questions we raise as we think of the role of universities in the national sys-

tems of innovation, whether social or otherwise. The intention of this chapter is not however to address these questions, but rather to interrogate the type of innovation programs (social or commercial) that exist at the Tanzanian universities. The objective is to initiate a debate on the best way to promote innovation for social and economic development in these countries—whether social or commercial.

We have developed three proxies to differentiate between commercial and social innovations. First is the origin of the program; that is, who initiated it—whether a private company or individual, or university itself in responding, either to the private company demands or service to the community. The second important criterion to differentiate between commercial and social innovation is objective: what is the objective of the program; who does it envisage to serve: wider community or individual company/persons. If an innovation is initiated by private companies or universities, but for the purpose of serving private companies, then there is no question that the innovation is commercial. On the other hand however, if an innovation is initiated by the public sector—governments or donors, and it serves the interest of the wider public rather than individual companies/individuals, then there is no question that it is a social innovation according to the given definition. The challenge and the gray part of the definition is when the innovation program is initiated by the public with the objective to serve private companies; how will it be defined? Social or commercial?

The following section highlights some of the innovation program at universities in Tanzania. To control for bias, we just asked for all the innovation programs that a university is currently engaged in, just concluded, or had been engaged in the past. From the Sokoine University of Agriculture we got quite a number, and randomly selected few; but from the University of Dar es Salaam, all responses are included. However, the list could have excluded the innovation programs that did not have a word "innovation" or "technology" directly in the name.

Empirics: A Random Sample of Innovation Programs at Two Universities in Tanzania

Innovations to Support Agricultural Development: Sokoine University of Agriculture

Introduction

Innovation programs in Africa, including Tanzania, are best traced to the agricultural sector. With the initiation of the National Agricultural Research Institute (NARIs) in the 70's innovation is already in the vocabulary of researchers in the agricultural sector. Much of the programs is about the dissemination and diffusion of new technologies developed in the agricultural research institute, largely through extension service. Much of these researches were not a response to effective demand

from farmers, but through needs assessment, and sometimes guess work from researchers. Most of the programs were initiated and funded either by the government or by the donors. As already been documented in various literature, such programs—although consuming a lot of money, have had minimum impact on the lives of farmers—especially the small holders. Although most of the agricultural research in Tanzania are carried out by the National Agricultural Research Institute, there is one university—Sokoine University of Agriculture—that was specifically created for agriculture-related research. For the purpose of this work, we will briefly present two of the innovation programs from SUA.

Enhancing Pro-poor Innovation in Natural Resources and Agricultural Value Chains [EPINAV] Programme

Initiation of the Program

The EPINAV Program which is financially supported by the Government of Tanzania and Government of the Kingdom of Norway—covering a period of 4 years beginning November 2010 to October 2014, builds on the SUA *Programme for Agricultural and Natural Resources Transformation for Improved Livelihood* (PANTIL) that ran from 2005 through 2010 with a total budget of nearly NOK 84 million, or about USD 14 million. The program emerged from the results achieved under PANTIL, and was modified to address proposals from the PANTIL mid-term review (SUA 2010). There was, however, no final evaluation of the PANTIL program, so there is no independent critical record of achievements and challenges to base the EPINAV program. The major reason for this was that EPINAV was already being prepared.

The contract program was signed in December 2010, and in early 2011 SUA initiated the project designs. A call for proposals produced 75 responses, of which 45 were shortlisted for the second round. These prepared full (50–60 pages) project documents with budgets. Of these, 15 were approved for funding, two strategic interventions were accepted, and later two further projects addressing Basic Research were included. The Norwegian Embassy 1 year later suggested adding support to the Kizimbani Agriculture Training Institute (KATI) on Zanzibar, with supplementary funding to the budget.

Objectives and Target Beneficiaries

EPINAV was targeted to address one of the most deep-rooted problems in African agriculture: how to assist small-holder producers to go from subsistence-based livelihoods to becoming more dynamic producers contributing to and benefiting more from market interactions. The purpose of EPINAV is to "enhance productivity, livelihood security, and human capacity of target communities to utilize pro-poor and climate change adapted innovations in agriculture and natural resources value chains." This overall objective is addressed in three major components: Research

and strategic interventions (RSI), Capacity Building and Institutional Collaboration (CBIC), and Planning, Monitoring and Evaluation (PM&E). The Research Component has four themes: Innovation systems research for up-scaling of technologies and best practices; Adaptation of agriculture and Natural Resources to Climate Change; Policy Research Analysis and Governance; and Innovative communication and knowledge dissemination pathways (SUA 2011).

Impacts

The project has enabled dairy farmers to increase milk production from an average of 6–26 L/day. The EPINAV project has helped dairy farmers to acquire milk quality control and processing technologies which ensure attainment of the required quality standards. EPINAV has simplified the lives of dairy farmers in terms of cooking and lighting using biogas. For instance, in Njombe Region, 12 biogas plants in 4 out of 6 new villages have been installed and are used in addition to training on technologies on manure and slurry handling and utilization and biogas production (Makene 2014).

Innovative Agricultural Research Initiative (iAGRI)

Initiation of the Program

iAGRI is an USAID-funded project designed to strengthen the capacity of Sokoine University of Agriculture (SUA) and the Ministry of Agriculture, Food Security, and Cooperatives (MAFC) to contribute to Tanzania's development goals. iAGRI represents a partnership between and among Tanzanian institutions and the Ohio State University Consortium (OSUC) which consists of six major US land-grant institutions of higher education. They are Ohio State University (OSU), the lead institution; Michigan State University (MSU); the University of Florida (UFL); Virginia Tech (VT); Tuskegee University (TU); and Iowa State University (ISU).

Objectives and Target Beneficiaries

The overall purpose of the project is to contribute to the USAID Feed the Future (FtF) initiative and the Government of Tanzania (GoT) Comprehensive Africa Agricultural Development Programme Compact and Agricultural Sector Development Programme (ASDP) (iAGRI 2013). Specifically, iAGRI aims to strengthen the capacity of Sokoine University of Agriculture (SUA) to develop and implement instructional, internship, and outreach programs. Furthermore, the project aims to strengthen training and collaborative research capacities of the Tanzanian Ministry of Agriculture, Food Security and Cooperatives (MAFC) with the goal of improving food security and agricultural productivity in Tanzania (iAGRI 2013).

The program has four major objectives:

- Provide advanced degree training in agriculture for 120 Tanzanian graduate students, 20 of them receiving training at the Ph.D. level
- Establish a program of agricultural research involving collaboration between and among SUA, NARS, and OSUC representatives
- Strengthen the capacity of SUA to directly develop and implement agricultural instruction, internship, research, and outreach programs and to manage associated changes effectively
- Promote cooperation between SUA, US universities, and Global South universities

Impact

iAGRI has been collaborating with Sokoine University of Agriculture Graduate Entrepreneurs Cooperative Organization (SUGECO), which consists of over 200 members. SUGECO has developed an impressive program that trains student entrepreneurs to develop business plans. Participants having the best plans are given loans to start a business through an arrangement with a local bank (iAGRI 2013).

Innovation Programs at College of Engineering and Technology (CoET)—University of Dar es Salaam

Introduction

Unlike in agriculture and therefore agriculture-related universities, innovation programs are very rare at other universities—at least something that has explicitly been branded as innovation program; but there can be many other programs that have innovation designed within their objectives without explicitly identifying themselves as innovation programs. This is especially true for social innovation that has very broad definition that also includes social non-technological innovations. Unfortunately here we will not include such innovation programs, because for one thing, their identification will be very difficult. We have so far been able to spot two programs that have clearly been branded as innovation program, namely Innovation Systems and Clusters Programme in Eastern Africa (ISCP-EA) and Technology Incubation program. Below is a brief account of the two programs

ISCP-EA Program

Initiation of the Program

The ISCP-EA Program was initiated by a group of scholars and policy officials from East Africa (Tanzania, Uganda, and Mozambique) who were invited to The Competitiveness Institute (TCI) conference in 2003. The group realized the importance of cluster initiatives and agreed to organize a conference for East Africa, with an action plan to initiate cluster initiatives as a major objective. Through SIDA

funding, the First Regional Conference on Innovation Systems and Innovative Clusters in Africa was finally held in Bagamoyo, Tanzania, in February 18–20, 2004. As originally planned, the Bagamoyo Conference gave birth to the Innovation Systems and Cluster Programme for Eastern Africa (ISCP-EA). Since then, ISCP-EA has been a university-led regional program, which started in 2004 and is being implemented collaboratively in three Eastern African states, namely Mozambique, Tanzania, and Uganda. It is coordinated and spearheaded in each of the three countries by respective Faculties of Engineering/Technology of the Universities of Eduardo Mondlane, Dar es Salaam and Makerere (Sida 2012). Although recently, the coordination for Tanzania and Mozambique has moved to the government institutions, elements of the program still remain at universities.

During the early phase of the program (2004–2006), eight clusters were initiated in Tanzania. These are, Metal works and Engineering—Morogoro (MECI), Zanzibar seaweed, Tourism—bagamoyo, Mushrooms-Dar es Salaam, Coast and Morogoro regions (Eastern region), Nutraceuticals/phytochemical, functional foods—Dar es Salam, Sisal (utilization of waste)—Tanga, Small scale fruits and vegetable processors—Morogoro, vegetable Seed Cluster—Arusha and Kilimanjaro (Sida 2012). To date the number of cluster developed are to the tune of 50.

Objective and Beneficiaries

The main objective of the cluster program is to stimulate, catalyze, and promote the development of innovation systems and innovative clusters in Eastern Africa, and thereby facilitate speedy socioeconomic development and poverty reduction. The program enables the universities to fulfill their mandate of reaching out and impacting on societal development by stimulating, catalyzing, and promoting generation of solutions to solve problems that confront their respective societies instead of remaining as "ivory towers" (Sida 2012). Most of the cluster firms are small in size, and therefore the program benefits the SME category of enterprises in the sectors of agriculture, manufacturing, and tourism.

Impact

The College of Engineering and Technology (CoET) of the University of Dar es Salaam, Tanzania, played a big role in development of these clusters. CoET has established cluster idea curricula and innovation courses at the level of Diploma and Certificate in addition to short courses and training to stakeholders on how to run activities as business (entrepreneurship) in the clusters (Msuya 2008). CoET has conducted a research on issues related to cluster problems such as quality control, diseases, and resistant/alternative varieties. The notable research was on new/alternative seaweed for Seaweed cluster members. Likewise, CoET transfers technology to these clusters. For instance, the soap production machines made at TDTC-CoET-UDSM such as solar drier, kettle for boiling and mixing, seaweed grinder, and extruder were transferred to seaweed cluster members for the production of soap and body creams. CoET supports participation of the clusters in trade fairs and

exhibitions for the marketing of their products in addition to the provision funds for the training on technology transfer such as in Zanzibar Seaweed Cluster Initiative (Msuya 2008).

Technology Incubation Program at CoET[2]

Initiation of the Program

The program was initiated by the Government of Tanzania in collaboration with the Gatsby Trust and the Carnegie Corporation of New York in 2003, and is being implemented by the College of Engineering and Technology (CoET), University of Dar es Salaam. The Project is envisaged to evolve into a platform for framework of the National SME Development Policy. The pilot phase that was carried out between 2003 and 2007 involved five interrelated steps: to promote the concept of technology incubators; to identify locations where pilot incubators could be successfully established and confirm their feasibility; to establish the identified incubators for the three selected communities; to provide ongoing support to the incubator tenants; and to disseminate the outcome of the pilot phase. Economic sectors that were targeted for the incubation are largely on food processing, specifically cashew nut processing, cassava processing, fruit and vegetable processing, and dairy products processing.

Objective of the Program and Target Beneficiaries

The objective of this Pilot Phase is to pilot replicable case studies of demand-driven business/technology incubators that are economically viable and relevant to national policy development objectives. The target beneficiaries are small enterprises—currently existing and potential. In terms of the section of the community for potential enterprises, the target is the graduate of higher learning institutions, including universities. According to the project document, incubation projects were set up as one of the university outreach programs for nurturing and supporting spin-off companies in their early stages of development to enable them convert into commercially viable high-tech enterprises.

Impact

This program seems to have not comprehensively been evaluated until to date, and it is therefore not easy to discern its impact on the incubated firms. This general observation notwithstanding, some isolated observation reveals that the incubated firms were trained on how to successfully run their businesses.

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[2] See project document on http://www.coet.udsm.ac.tz/incubation/udsm_business_incubation_project.pdf.

Analysis of Innovation Programs at the Tanzanian Universities

Introduction

With the conceptual framework developed in section "Conceptual and Theoretical Framework" as a backdrop, the following sections analyze the innovation programs presented above and introduce the concept of social entrepreneurship. The objective is to determine whether these are social or commercial. To do this, we analyze the contents of the innovation program (by looking at their initiation, objectives, and beneficiaries) in the light of the conceptual framework defined in section two. Looking at the definition of social innovation, we summarize social innovations as being of two types: new products, services, and models that are targeted at meeting certain social needs/problem rather than individual gain; and those that create new social order, e.g., relationships, interactions, and believes, that in general empower the marginalized. We will use two interrelated proxies defined in section "Conceptual and Theoretical Framework" to decide whether innovation program is social or commercial. These are:

- Who initiated it—whether a private company or individual, or university itself in responding, either to the private company demands or service to the community
- Who does it envisage to serve: wider community or individual company/persons

    From the above three sets of possibilities can be derived as follows:

1. Initiated by private companies or universities, but for the purpose of serving private companies.
2. Initiated by the public sector—governments or donors, and it serves the interest of the wider public rather than individual companies/individuals.
3. Initiated by the public with the objective to serve private companies/individual.

    If a certain program falls under 1 above, then there is no question that the innovation program is commercial; and if it falls under 2, then it is social, but if it falls under 3, then it is debatable.

The Programs

Enhancing Pro-poor Innovation in Natural Resources and Agricultural Value Chains [EPINAV] Programme

The above innovation program was initiated and financially supported by the government in collaboration with donors. As presented above, it was designed to address one of the most deep-rooted problems in African agriculture—assisting small-holder farmers go from subsistence-based agriculture to becoming more dynamic

commercial-based farming. There are two major characteristics that make this innovation program a social innovation—according to currently existing definitions. First, it is an intervention where market did not work, which according to Phills et al. (2008), passes for social innovation. The program was initiated because there was market failure for innovation for small holder farmers. Second, innovation was primarily meant for food security and climate change adaptation—objective that is target to benefit the wider society rather than individual firms. For these two major reasons this innovation program can easily be categorized as social innovation program.

Innovative Agricultural Research Initiative (iAGRI)

As explained above, iAGRI is an USAID-funded project designed to strengthen the capacity of public institutions—including universities—responsible for agricultural development, with major objectives to ensure adequate and sustainable availability of food, including for the future (Feed the Future). The circumstances under which this program was initiated and the intended purpose is very similar to the *EPINAV* program above, it is therefore safe to say that, this innovation program too is social in nature.

ISCP-EA Program

This is an innovation program initiated by the university and funded by a donor. The program is targeted to benefit individual firms within the cluster so that they grow and become competitive. Looking at the definition of social innovation, it is only one of the two characteristics that can make this innovation program to be referred to as social; the second characteristic of targeting wider community rather than individual entrepreneurs/companies is not met. Consequently, it is not easy to classify this innovation program using the current definition of social innovation.

Technology Incubation Program

The program was initiated by the Government of Tanzania in collaboration with the Gatsby Trust and the Carnegie Corporation of New York, and it is donor funded. Just as the ISCP-EA program above, this only fulfills one criterion to pass as a social innovation as it is not targeted to benefit the wider society, but rather individual entrepreneurs.

Discussion and Some Concluding Remarks on Social Innovation

This chapter had an ambitious task of capturing the current understanding of social innovation and use this understanding to determine whether innovation programs at Tanzanian universities are social or commercial, and to what effect. The task

however appeared to be more daunting than we expected—what we gathered from the literature is that the conceptual understanding of what is meant by social innovation is far from being settled. While there is argument about production of new socially relevant goods and services (technological or otherwise) as focus for the definition of social innovation, on the extreme side there are arguments that social innovations are limited to non-technological innovations.

The above messy understanding notwithstanding, we were able to come up with two major criteria that have generally been used to distinguish a social innovation from a commercial innovation. First is a push of innovation from government or donor rather than market pull or private initiation; the second is targeted beneficiaries. For the first case the argument is that markets are always inefficient in bringing forth social innovations, and therefore public intervention is necessary. All of the programs included in this work are all initiated and funded publicly—either by donors or by governments, thus according to this criterion they pass for social innovation programs. For the second criteria of target beneficiaries—whether wider society or individual companies/entrepreneurs—two of the programs passed also for social innovation, while the remaining two failed because, although publicly initiated and funded, the target beneficiaries are individual entrepreneurs, which according to existing popular definition should not pass for social innovation. These attempts for public push for commercial innovation seem to be in agreement with the arguments that commercial innovations are extremely important for social development. Many commercial innovations create benefits for society, primarily through increasing employment, productivity, and economic growth. Some scholars (e.g., Phills et al. 2008) as already earlier alluded to, have strongly argued that some commercial innovations such as computers, automobiles, and pharmaceuticals have generated social value above and beyond their obvious economic impact that was privately led. This is precisely the reason many poor countries' governments are paying ever-increasing attention to the business environment that ensures smooth growth of the private sector in their countries.

To sort out conceptual understanding of social innovation from the current messy situation, it is important to go back to the origin of the discourse—what prompted the discourse? Some literature sites the well-developed commercial and market-led innovation systems—largely in developed countries—that have shown clear danger of undermining some socially important social innovations that cannot be triggered through market mechanisms alone. But for the environment of poor countries, where there is also market failure for market-led innovation, how can social innovation be defined and organized? How can the two best be promoted together? How can for instance social innovation (in the case of non-technological) be best organized to prompt commercial innovation that is inclusive? What would be the role of universities as major actors in the national systems of innovation? These are some of the questions that need to be raised in relation to ongoing discourse on social innovation.

Social Innovation and Social Entrepreneurship

Conceptual Issues

While widespread social innovations as discussed above are extremely important for inclusive development, an important question is what kind of mechanisms should be put in place to ensure their widespread use? For commercial innovation we have economic entrepreneurs—with profit maximization as their major driving force. Can the category of entrepreneurs—termed as social entrepreneurs—be at work? This section revisits the concept of social entrepreneurship and assesses the extent to which it was responsible of the observed innovations at universities. The subsection also explores the extent to which the concept is at work elsewhere in Tanzania.

Along with the concepts of inclusive development and social innovation, the concept of social entrepreneurship is gaining increased popularity—given the fact that an entrepreneur is central to innovation. However, confusion and uncertainty are constantly noted about what exactly a social entrepreneur is and what she/he does. According to Barendsen and Gardner (2004), the concept of social entrepreneurship is ill defined and does not have a coherent theoretical framework. It is therefore even challenging to use it here. This notwithstanding however, defining the concept within the close resemblance of an economic entrepreneur somehow helps. This is because the concept of entrepreneurship was first defined in economic terms. According to business management literature, economic entrepreneurship is an exceptional set of activities carried out by individuals with an exceptional mindset in order to maximize profit (Saifan 2012). They are seen as individuals who see the world differently and envision the future better than others do. They seize business opportunities that otherwise would go unnoticed. Because of these unique characteristics they have been differentiated from other normal business people: While normal business people endeavor to satisfy needs, entrepreneurs create needs (2010Global Report: Global Entrepreneurship Monitor 2011). Social entrepreneurs can be defined along the same lines, but focusing on general societal benefit than individual profit as a focus. According to Saifan (2012) a social entrepreneur is a mission-driven individual who uses a set of entrepreneurial behaviors to deliver a social value to the less privileged, all through an entrepreneurially oriented entity that is financially independent, self-sufficient, or sustainable.

According to Saifan, the above definition combines four factors that make social entrepreneurship distinct from economic entrepreneurship. These are:

- Are *mission-driven*. They are dedicated to serve their mission of delivering a social value to the underserved.
- Act *entrepreneurially* through a combination of characteristics that set them apart from other types of entrepreneurs.
- Act within *entrepreneurially oriented organizations* that have a strong culture of innovation and openness.

- Act within *financially independent organizations* that plan and execute earned-income strategies. The objective is to deliver the intended social value while remaining financially self-sufficient. This is achieved by blending social and profit-oriented activities to achieve self-sufficiency, reduce reliance on donations and government funding, and increase the potential of expanding the delivery of proposed social value.

Making use of the above factors that best explains a social entrepreneur, Saifan (2012) argues that social entrepreneurs operate within the boundaries of two business strategies:

- **Non-profit with earned income strategies:** a social enterprise performing hybrid social and commercial entrepreneurial activity to achieve self-sufficiency. In this scenario, a social entrepreneur operates an organization that is both social and commercial; revenues and profits generated are used only to further improve the delivery of social values.
- **For-profit with mission-driven strategies:** a social-purpose business performing social and commercial entrepreneurial activities simultaneously to achieve sustainability. In this scenario, a social entrepreneur operates an organization that is both social and commercial; the organization is financially independent and the founders and investors can benefit from personal monetary gain.

With the above modest theoretical handle, we can now attempt to argue whether or not the social innovations achieved by universities in Tanzania are product of social entrepreneurs. The section will also make a brief account of social entrepreneurship happening elsewhere in Tanzania.

Social Entrepreneurship and Social Enterprises in Tanzania

We will start this section by out rightly stating that University social innovation programs revisited above have very little to do with social entrepreneurship because according to the literature revisited, social entrepreneurs operate within an entrepreneurially oriented entity that is financially independent, self-sufficient, or sustainable, but most of the programs have been initiated by the donors and governments in collaboration with the universities, and funded through grants. This notwithstanding however, there are other writings and case studies elsewhere in Tanzania, claiming to be examples of social entrepreneurship or rather social enterprises. We will briefly revisit them here. A notable example is the role played by church. Hosea (2010) examined the role of church in social entrepreneurship development in Tanzania. The study documented that church has played a significant role in social entrepreneurship development in Tanzania through training and preaching. This study for instance argues that church teaches "Good Agricultural Practices" to marginalized farmers in Dabaga and Ilula of Iringa region on the use of Oxen Plough in the production of tomato, maize, onions, vegetables, and fruits. The training has resulted in huge production and hence food security to poor farmers. The study also

documented that the church has helped poor in various ways, for example, many churches in Tanzania have established education and vocational training centers for the provision of skills and knowledge on various trades such as carpenter, tailoring and weaving to street children, orphans and widows. Later on, a significant share of the trained individuals managed to establish their own small enterprises in their rural settings. Hosea further argues that the church acts as a supportive institution by enabling the poor to meet their basic needs, not by providing cash but by providing them with the necessary training and significant role models.

Another important organization that has largely been cited in literature in social entrepreneurship in Tanzania is the Small Industrial Development Organization (SIDO). This Agency was put in place by the government for the purpose of assisting small enterprises—normally run by the poor—in terms of access to credit, training, business development, and technology. The overall development objective of the organization is "to contribute to poverty eradication through enterprise development." Specific examples of initiatives taken by SIDO are training offered to women entrepreneurs—both those who have already started businesses and those who would like to start their own new business (Mori and Fulgence 2009). For those in businesses they offer cheap and affordable training on how they can manage and expand their businesses. For those who want to start businesses—largely in food processing industry—it offers courses on food preservation and processing at a small fee where participants learn by doing. SIDO initiatives have been found to have tremendous impact on women enterprises as those women who attended the training and start their own business are performing very well (Mori and Fulgence 2009).

Another example cited in social entrepreneurship literature in Tanzania is the Tanzania Social Action Fund (TASAF), which again is a government-funded organization that helps economically vulnerable families in rural areas to earn income to support themselves. TASAF specifically targets families and individuals that meet the following criteria: (1) lack access to basic social and market services; (2) have able-bodied but food insecure households; and (3) have household with vulnerable individuals (i.e., orphaned, disabled, elderly, affected/infected by HIV/AIDS). According to Mamdani et al. (2008), TASAF has very interesting projects such as Apparel/Sweater Making Business which consisted of about 16 female workers with HIV/AIDS. This group makes sweaters for customers who live on or near the Kilimanjaro Mountain where the weather is cold. They also make warm weather clothing for women, men, and children. Every member of the group owns a stake in the business and shares its profits. Another example of a project by TASAF as explained by Mamdani et al. (2008) is a chicken raising business. The business is managed by both men and women with HIV/AIDS and serves big hotels in Tanzania. These projects have had a tremendous impact to marginalized/HIV/AIDS people who are without help. People with HIV/AIDS face serious health issues and negative stigma in Tanzania and in Africa as a whole.

Another social enterprise operating in Tanzania is Techno serve, which is a non-profit organization that develops business solutions for poor people by linking them to information, capital, and markets. Their work is rooted in the idea that hardworking people can generate income, jobs, and wealth for their families and communi-

ties. Techno Serve provides business solutions to poor rural and farming communities to alleviate rural poverty. Techno Serve helps and encourages poor farmers to form "farmer business groups" (similar to cooperatives) so that farmers can increase their buying power and reduce the value chain to increase their profit. Its work is normally restricted to assisting groups rather than individuals. For instance, it works with several groups of farmers either in informal groups or cooperatives who have developed small milk collection and marketing enterprises. In most cases this involves the collection and marketing of raw milk but has also included two small scale processing enterprises producing cultured milk. Small scale cultured (mala) milk enterprises have been introduced to Nronga Women's Cooperative in Kilimanjaro Region and to Tanga Dairy Cooperative Union (Burrel 1995). Lastly, Techno Serve encourages rural communities to practice crop rotation by planting sesame and cassava in the off season of the primary crops to make the best use of their resources. Techno Serve recently received 46.9 million USD from the Bill and Melinda Gates Foundation and additional millions from Google to give poor rural communities a hand up instead of a hand-out (Oyenuga 2011).

In concluding this section it suffice to say that although the above cases have clearly contributed to social transformation by assisting poor people to form businesses that support creation of jobs, markets and provision/delivery of collective goods and social services, it is difficult to say whether or not these are examples of social entrepreneurship/enterprises. From the definition offered in this work, such initiative might not warrant to be termed as social entrepreneurship or social enterprises because it is difficult to trace these initiatives to individual efforts through social entrepreneurship; perhaps it is only the Techno serve that can stand the test of the true meaning of social entrepreneurship.

Summary and Concluding Remarks

The major focus of this work has been on universities and social innovation, largely trying to raise and answer the question whether or not the few existing innovation programs at the Tanzanian universities are social or commercial. It was necessary to raise this question because the concept of social innovation originated from developed countries, where systems for commercial and market-driven innovations are already in place. For most poor developing countries, systems are fragmented and markets are inefficient in facilitating innovation. Recognizing that an entrepreneur is an important actor in the innovation process, along with the concept of social innovation, the work also dealt with the concept of social entrepreneurship.

The outcome of the analysis indicates that much of the university innovation programs described in this work are more of social type than commercial. But the question arise that in the environment where commercial innovation systems are weak, and that much of the innovation that would otherwise be market led are also driven through public programs and/or social entrepreneurs, what would be the difference between social and market innovation? Does it even make sense to refer to

social innovation while commercial innovations are not widespread and an effective system is not in place? This question is worth rising especially because as shown in this work, much of the human progress has been achieved through market-driven innovations.

In regard to the concept of social entrepreneurship, it appears that the university innovation programs described in this work are not the product of social entrepreneurship, but rather donors and governments efforts. However, this notwithstanding, there is a lot of documentation and claims of the work of social entrepreneurship in Tanzania in general, which have also briefly been reviewed here. But the question on whether or not these are work of social entrepreneurs is questionable: most examples are public programs funded through grants, except for one—Techno Serve.

References

2010 Global Report: Global Entrepreneurship Monitor (2011). Retrieved from http://www.gem-consortium.org/docs/download/266.

Acs, Z. J., & Audretsch, D. B. (1990). *Innovation and small firms*. Cambridge, MA: MIT Press.

Ahlstrom, D. (2010, August). Innovation and growth: How business contributes to society. *Academy of Management Perspectives. 24*(3), 11–23..

Archibugi, D., Evangelista, R., & Simonetti, R. (1994). On the definition and measurement of product and process innovation. In Y. Shionoya & M. Perlman (Eds.), *Innovation in technology industries and institutions, studies in Schumpeterian perspectives*. Ann Arbor, MI: University of Michigan Press.

Barendsen, L., & Gardner, H. (2004). Is the social entrepreneur a new type of leader? *Leader to Leader, New York, 34*(fall), 43–50.

Burrel, G. (1995). Lessons learnt form Techno Serve's experience with small scale milk processing in Tanzania. In *Workshop on strategies for market orientation of small scale milk producers and their organizations, Morogoro (Tanzania)*, 20–24 March 1995. FAO.

Coombs, R., Saviotti, P. and Walsh V. (1987), Economics and Technical Change, Macmillan Education Limited.

DeLong, J. B. (2000). *The shape of twentieth century economic history* (NBER Working Paper Series, No. 7569). Cambridge, MA: National Bureau of Economic Research.

Drucker, P. F. (1985). *The practice of innovation, innovation and entrepreneurship practice and principles* (pp. 19–33). New York: Harper & Row.

European Communities. (2011). *Empowering people, driving change: Social innovation in the european union*: European Commission.

Gupta, S., A. Kangur, C. Papageorgiou, and A. Wane, 2014, "Efficiency-Adjusted Public Capital and Growth," *World Development, 57*, 164–178.

Hart, T., Jacobs, P., Ramoroka, K., Mangqalaza, H., Mhula, A., Ngwenya, M., et al. (2014, March). *Social innovation in South Africa's rural munisipalities: Policy implications. Policy brief*. SA: Department of Science and Technology.

iAGRI. (2013). Annual Report October 1, 2012–September 30, 2013. Office of International Programs in Agriculture, Ohio State University and Innovative Agricultural Research Initiative (iAGRI), Sokoine University of Agriculture.

Lucas, R. (2002). *Lectures on economic growth*. Cambridge, MA: Harvard University Press.

Lucas, R. E. (2003). Macroeconomic priorities. *American Economic Review, 93*(1), 1–14.

Maddison, A. (2006). *The world economy. Volume 1: A millennial perspective, Volume 2: Historical statistics*. Paris: OECD.

Makene, P. (2014). *SUA project 'Epinav' enables Njombe farmers to raise milk four fold*. Retrieved January 25, 2014, from http://www.ippmedia.com/frontend/.

Mamdani, M., Rajani, R., & Leach, V. (2008). How best to enable support for children affected by HIV/AIDS? A policy case study in Tanzania. *IDS Bulletin, 39*(5), 52–61.

Mori, N., & Fulgence, K. (2009). Social entrepreneurship in Tanzania: Assessment of enabling environment. In *Second EMES international conference on social enterprise*.

Msuya, F. (2008). Role of a university in cluster development: Paper presented during 11th Annual Global Conference on the Competitiveness Institute, Southern Sun Cape Sun, Cape Town, South Africa.

Oyenuga, K. (2011). Technoserve: Tanzanian farmers report improved yields via SMS.

Parente, S. L., & Prescott, E. C. (2002). *Barriers to riches*. Cambridge, MA: The MIT Press.

Phills, J., Jr., Deiglmeier, K., & Miller, T. (2008, Fall). Rediscovering social innovation. *Stanford Social Innovation Review*. Leland Stanford Jr. University.

Romer, P. (1986). Increasing returns and long run growth. *Journal of Political Economy, 94*(5), 1002–1037.

Romer, P. (1993). Implementing a national technology strategy with self-organizing industry boards. In M. N. Baily, P. C. Reiss, & C. Winston (Eds.), *Brookings papers on economic activity, microeconomics* (Vol. 2, pp. 345–399). Washington: Brookings Institution.

Rosenberg, N. (1982), Inside the Black Box: Technology and Economics, Cambridge, University Press.

Rothwell, R. & Zegveld, W. (1985), Reindustrialisation and Technology, Longman: Harlow.

Saifan, S. A. (2012, February). Social entrepreneurship: Definition and boundaries. In *Technology innovation management review* (pp. 22–27).

Sida. (2012). Evaluation of Sida's support to innovation systems and clusters, a research cooperation initiative individual cases.

Sokoine University of Agriculture (SUA). (2010). *Launching report of the program "Enhancing Pro-poor Innovation in Natural Resources and Agricultural Value Chains [EPINAV]"*. Morogoro: SUA.

Westley, F. (2008), *The Social Innovation Dynamic*, Social Innovation Generation, University of Waterloo, Ontario, Canada.

Chapter 10
Engaged Universities and Inclusive Development: Grappling with New Policy Directions in South Africa

Glenda Kruss

Abstract The chapter draws on a body of empirical research in South Africa exploring the ways in which academics extend their knowledge to the benefit of external partners. The first section shows that massification and formal access to the higher education system has been achieved, but epistemological access and success remain a challenge. The second section reflects that the most common partners are academics or communities, but the most common types of relationships do not involve community participation: students with a social conscience, welfare-oriented community service and research to improve the quality of life. While there are well-developed mechanisms to promote industry participation in shaping research and innovation agendas, such interaction with communities is a significant gap. The third section therefore examines emergent models of external interface mechanisms that can link communities to access university knowledge, to inform a shift towards inclusive development.

Keywords South Africa • Universities • Inclusive development • Communities • Access • Interaction • Participation • Social innovation

Introduction

In 2015, for the first time in decades, South Africa's university system was in turmoil. Significant groups of students, experiencing ongoing and rising inequalities, challenged the financial barriers preventing access, the successful completion of their studies, and the opportunity for upward mobility (Nkosi 2014; Makoni 2014). The #Fees Must Fall movement brought into sharp relief the widespread student

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experiences of exclusion, and frustration at the lack of transformation as promised by the democratic dispensation initiated in 1994 (MacGregor 2014).

This was despite the fact that, located in one of the most unequal economies, rooted in colonial exploitation, South African universities have long questioned and debated their roles and contribution to inclusive social and economic development, through their threefold missions of teaching, research and engagement. The democratic transition after 1994 provided the opportunity for a radical policy shift, to transform unequal educational, economic, social and political structures. After a decade of grappling with new policy and funding frameworks, a national process of institutional restructuring, and the needs of an underprepared student cohort, the higher education system settled and proceeded through the 2000s largely comfortable in the belief that all were doing what they could to ensure equality. This was based on evidence of massification of the system—a rapid growth of enrolments nationally, and a shift in race and gender patterns towards wider access to university study. Contributing to shift structural inequalities proved far more complex, however. The reasons are the subject of much analysis, but the evidence is incontrovertible—growing inequality, poverty and unemployment, and a surfacing of racial tension, in the context of global financial crises. The call is now for more fundamental transformation of the university, not only in terms of who it teaches, but what and how it teaches, and by extension, what, how and who benefits from its research and innovation activities.

This chapter will interrogate the ways in which the goals of addressing inequality, innovation and inclusive development have been interpreted and enacted in South African universities since 1994. The South African case highlights the dynamics faced by many higher education systems globally: navigating the complex challenges of responsiveness and accountability to scientific disciplines, to the markets, to government policy priorities, and increasingly, to the demands of citizens for inclusive and sustainable development. A new discourse, that inequality is bad for economic growth and to the disadvantage of all, and a challenge to the "one percent", has emerged over the past 5 years on a surprisingly wide scale globally, with universities and students at the heart of new social movements. Piketty's (2014) analysis of longitudinal data to track how inherited wealth is responsible for the growing concentration of income and inequality by elites in developed contexts is but one key instance. Global financial institutions like the World Bank and UNDP now promote the need for "inclusive growth" (Ranieri and Ramos 2013; George et al. 2012). Ramos et al. (2013) define "inclusive growth" as "both an outcome and a process", making a critical distinction. That is, all social groups should be able to *participate* in the growth process and share the *benefits* equitably: "participation without benefit sharing will make growth unjust, and sharing benefits without participation will make it a welfare outcome" (Ramos et al. 2013:3 and 4).

However, there is a growing consensus that techno-economic growth and equality may operate in tension, rather than in tandem (Cassiolato et al. 2003; Dalum et al. 2010; Fajnzylber 1989). The analysis is thus situated within an approach of "inclusive development", which is not "economic growth alone and

economic development alone" (Cozzens and Sutz 2014), nor can it be equated with a country "catching up". "Inclusive development" encompasses outcomes and benefits that are both *by and for* "marginalised groups" specifically—those communities, households and individuals excluded from circles of social and economic power. This highlights the significance of *agency* as the characteristic that qualifies a process as inclusive development, in contrast with top-down attempts at development that do not involve local communities or do not include them as active agents in the process. Marginalised groups should have input into and participate actively in (ideally) all stages of a collaborative project, including problem identification, idea generation, proposal evaluation, design, fabrication, evaluation and solutions to problems (Gomez-Marquez 2010). Inclusion thus extends to the process, as well as the problems addressed and the solutions provided. The normative assumption informing the analysis in this chapter is that individuals in marginalised households and communities should be active agents in all knowledge-related processes, and not only the passive beneficiaries of the actions of academic experts.

The chapter draws on a body of empirical research that focused on the ways in which academics in distinct types of university extend their knowledge to the benefit of external partners (Kruss et al. 2013; Kruss and Gastrow 2015). It conducts new analysis,[1] synthesises and abstracts from complex and detailed data analysis to highlight key trends, and provides illustrative instances. The first section shows that massification and opening up formal access to the higher education system has been achieved, but that epistemological access and success remain a challenge blocking inclusive development, in terms of who benefits from teaching and learning activities. The second section traces patterns of academics' interaction, in relation to their teaching, research and innovation or outreach activities, investigating who are the external partners, what are the types of relationship and what are the outcomes and benefits from such direct and indirect interaction. It shows that the most common partners are other academics or communities, but that the most common forms of interaction do not involve community participation in the process: producing students with a social conscience, welfare-oriented community service and conducting research that may improve the quality of life of all. While there are well-developed mechanisms to build direct forms of interaction with firms that promote industry participation in shaping research and innovation agendas, processes and outcomes, such interaction with communities is a significant gap. The third section therefore examines emergent models of external interface mechanisms that can bridge and link communities to access university knowledge, to inform a shift towards inclusive development.

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[1] Fresh data analysis was conducted on shifts in higher education participation, using the Higher Education Management Information System (HEMIS) dataset and secondary sources over the period since 1994.

How Inclusive Are South African Universities in the Reach of Their Teaching?

The higher education landscape in South Africa has changed significantly since 1994, when there were 36 institutions operating in a binary system, of universities and technikons. Distinctions were evident between historically black and white universities/technikons, historically English and Afrikaans white universities/technikons, and between a very large distance university and a distance technikon, and the majority of contact institutions. Universities were spatially concentrated in the major metropolitan areas, with some in isolated and impoverished rural locations, originally established to serve the ethnically based Bantustan strategy. Distinct histories and unequal resourcing shaped the academic reputation, institutional cultures and disciplinary foci of these sets of university. From 2004, a process of institutional restructuring created 23 universities and three new institutional types, in an attempt to shift the systemic inequalities and reorient the system to inclusive development: 11 traditional universities (including a sub-set of the "big five" research universities with strongest academic reputations), six comprehensive universities (a new form) and six universities of technology (an evolution from technikons). Two new universities were opened in the Mpumalanga and the Northern Cape provinces for the first time in 2014/2015, to extend access to citizens in those economically undeveloped regions, as well as a new specialised medical university in Gauteng. Historical differentiation and institutional inequality within the higher education system thus continue to have a long reach into the present, shaping diverse interpretations and combinations of the complex multiple roles of universities. The analysis in this chapter therefore aggregates across the higher education system, but highlights significant differentiation.

Achieving Formal Access but Equity of Outcomes Remains a Challenge

The imperative to open up access to higher education was the main concern of new democratic policy makers and universities immediately after 1994, and in the two decades since. The agenda was set in terms of growing the participation rate, ensuring racial and spatial equity, and ensuring a spread of qualifications that could match the opportunities for employment and promote economic growth. The target set in 2001 was to attain a 20 % participation rate within 10–15 years (CHE 2006).

Total enrollment in tertiary education as a percentage of the 5-year age group after secondary school was reported as 20 % in South Africa in 2012 (World Bank 2016). The South African government used a lower estimate, of a participation rate of 16 % of 18–24-year-olds in 2011, to set new targets in line with its national development vision. The new goal is a 23 % participation rate by 2030, which would require rapid growth in university enrolments to 1.5 million (MacGregor 2012).

Table 10.1 Enrolments in higher education by race 1995–2014

	1995*	1999*ᵃ	2005**	2010**	2014**	Population***
African	287,000 (50.3)	33,2000 (58.5)	446,946 (60.8)	595,783 (66.7)	679,800 (70.1)	43,333,700 (80.2)
Coloured	33,000 (5.8)	31,000 (5.5)	46,302 (6.3)	58,176 (6.5)	60,716 (6.3)	4,771,500 (8.8)
Indian	37,000 (6.5)	40,000 (7)	54,611 (7.4)	54,492 (6.1)	53,611 (5.5)	1,341,900 (2.5)
White	214,000 (37.5)	165,000 (29)	185,847 (25.3)	178,190 (20)	166,172 (17.1)	4,554,800 (8.4)
Unknown	–	–	1367 (0.2)	6295 (0.7)	8855 (0.9)	–
Total	571,000	586,000	735,073	892,936	969,154	54,002,000

Source: *CHE (2004:66) (rounded to nearest 000); **Own calculations HEMIS; ***Statistics South Africa (2014)

ᵃFigures for 1999 were used as there was a major error in the data for 2000
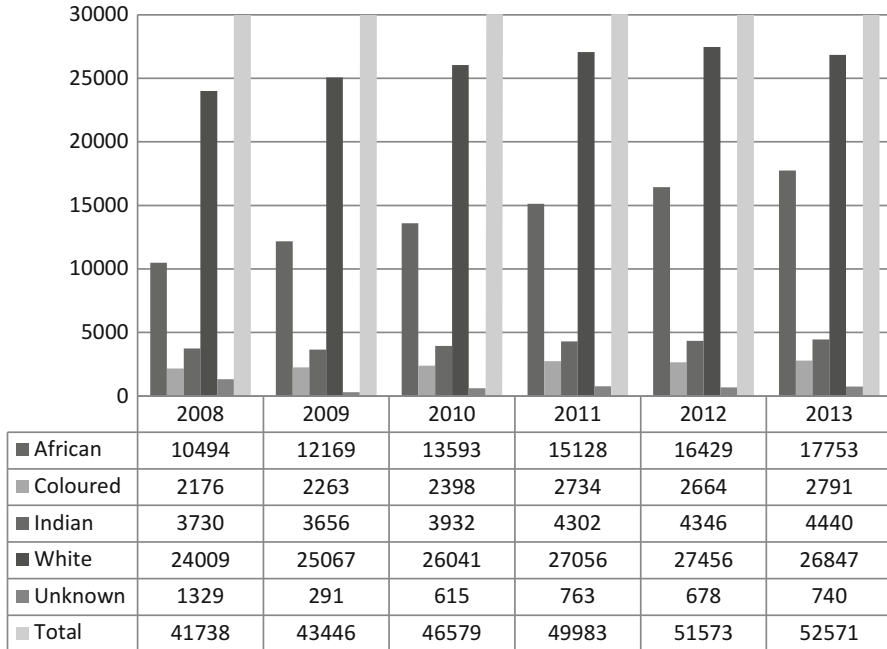
The data suggests that this is achievable, and that massification of a formerly elite system has occurred. Table 10.1 shows that from 1995, total enrolment was relatively stable around 500,000 but grew rapidly between 1999 and 2005, and has grown steadily since. The system is currently close to the one million mark.

Formal access to university study was opened in a more equitable manner than the past to all racial groups, evident in the steady shift towards a proportion of African enrolments that reflects their majority presence in the total population more closely. In 1993, just before the democratic era, 40 % of university students were African, in contrast to 77 % of the total population (CHE 2004), but by 2014, this had grown rapidly to 70 % of all university students. Despite the shift in racial composition of the total student body, the proportion of Africans who entered higher education remained significantly lower (16 %) than the participation rate[2] for whites (55 %) and Indians (47 %) in 2013 (CHE 2015). African students were also more likely to be enrolled at undergraduate level, and to be older (CHE 2015). Racial inequality in the composition of the academic staff is reflected in Fig. 10.1, with the majority of academics remaining white but African lecturers increasing between 2008 and 2013.

The pattern for gender equity is unusual, in that from a majority of male students, around 1997 the balance of enrolments shifted to predominantly women students, 58.3 % in 2014 (own calculations from HEMIS). This points to a major educational and socio-economic problem, of large numbers of young men who are unemployed or not in education and training.

How well does the system meet the skills needed for economic growth and social development? A target was set in 1996 to rebalance enrolments across the system

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[2] The participation rate is calculated as the total headcount enrolments as a percentage of the total population between the ages of 20–24 years.

	2008	2009	2010	2011	2012	2013
■ African	10494	12169	13593	15128	16429	17753
■ Coloured	2176	2263	2398	2734	2664	2791
■ Indian	3730	3656	3932	4302	4346	4440
■ White	24009	25067	26041	27056	27456	26847
■ Unknown	1329	291	615	763	678	740
■ Total	41738	43446	46579	49983	51573	52571

Fig. 10.1 Headcount academic staff members by race 2008 to 2013 (*Source*: CHE 2015)

towards a 40:40:30 ratio, of Science, Engineering and Technology (SET) to Business and Commerce (B&C) to Humanities (Hum). Figure 10.2 reflects the distribution of enrolments by broad field in 2013, showing that enrolments in SET and B&C are around 29 % each, while Humanities (17 %) and Education (25 %) together still account for 42 % of enrolments. Evidently, the high-level SET qualifications and skills required for the economy are not being produced in sufficient numbers. Nor are these enrolments likely to shift unequal employment patterns significantly, as proportionately more Africans are enrolled in Humanities and Education fields (Fig. 10.2).

While formal access and expansion of the system has been facilitated, "epistemological access" (Morrow 2009) to the knowledge base of the university, is far more difficult to achieve (Boughey 2003). Universities are challenged to work in different ways with "underprepared" students coming from weak educational backgrounds, to ensure that they learn and succeed at university (CHE 2013; Essop 2015). These challenges are exacerbated by the financial constraints on students, coming from black working class families, many the first to enter higher education. The result is high drop-out rates, low graduation rates, extended periods to obtain qualifications, and a "churn" of students in and out of universities as their circumstances improve or worsen (Scott et al. 2007; Letseka et al. 2009; Murray 2014; CHE 2015). High drop-out rates of low-income students with deficiencies in basic education is a problem common to comparator countries such as Brazil (Downie 2010).
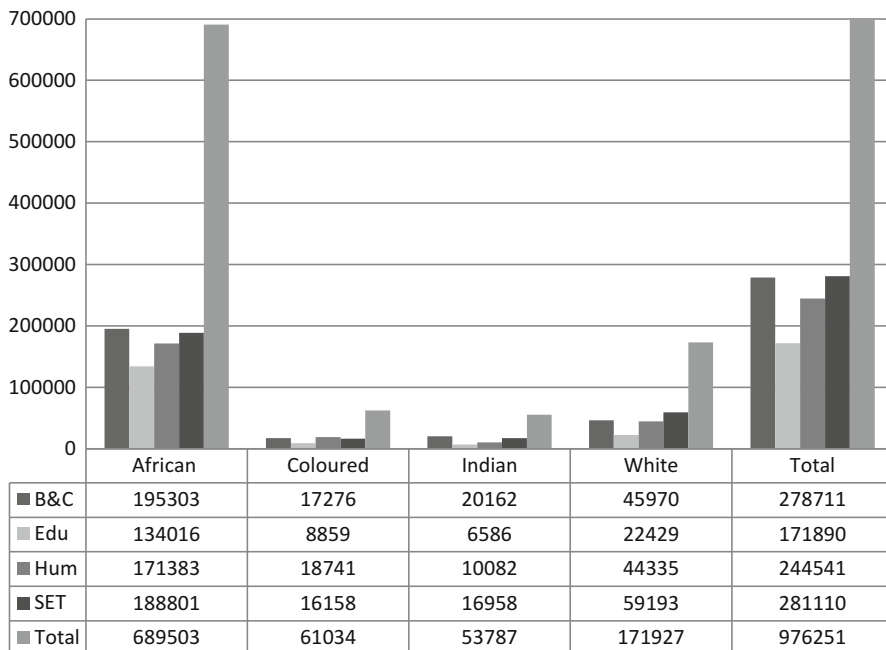
	African	Coloured	Indian	White	Total
■B&C	195303	17276	20162	45970	278711
▪Edu	134016	8859	6586	22429	171890
■Hum	171383	18741	10082	44335	244541
■SET	188801	16158	16958	59193	281110
▪Total	689503	61034	53787	171927	976251

Fig. 10.2 Enrolments by field and race 2013 (*Source*: CHE 2015)

Table 10.2 Graduation by race 1990–2014

Race	1990	1995	2001	2005 (%)	2010 (%)	2014 (%)
A		31,567 (39)	53,301 (54)	66,635 (55.3)	94,327 (61.3)	122,166 (65.8)
C		4252 (5)	5036 (5)	7267 (6)	10,575 (6.9)	11,628 (6.3)
I		5370 (7)	6146 (6)	8063 (6.7)	8608 (5.6)	10,255 (5.5)
W		40,575 (50)	33,582 (34)	38,215 (31.8)	38,641 (25.1)	39,543 (21)
U				230 (0.2)	1630 (1.1)	1802 (1)
Total		*81,764*	*98,065*	*120,410*	*153,781*	*185,394*

Source: Own calculations HEMIS

Consequently, the profile of those who remain at university and complete their qualifications reflects inequalities shaped by the intertwined characteristics of race, class and schooling background. Table 10.2 demonstrates the low total numbers graduating annually from the system, and that despite a steady increase of African graduates, white students are relatively more successful in completing their qualifications. A recent cohort study (CHE 2015) showed that African graduation rates were lower, and drop-out rates higher, than white, Indian or coloured students in many qualification types and disciplinary fields.

Universities themselves have been preoccupied with addressing poor throughput rates and enhancing the quality of teaching and learning in general and in key fields

(Jaffer et al. 2007; Pym et al. 2011; Collins 2013; Strydom et al. 2012). They have developed tuition programmes to support bright students with poor schooling backgrounds who are not sufficiently prepared for university study, such as foundation programmes and extended degrees (Mabila et al. 2006). Extensive academic support programmes and expertise has developed nationally (Boughey and Niven 2012). A national Quality Enhancement Project was initiated by the Council of Higher Education as part of its monitoring and quality assurance mandate, reflecting a shift to towards a more effective improvement-based process (Essop 2015). All of these strategies aim to enhance the "efficiency" (Boughey 2003) of higher education teaching and learning, to the benefit of black and poor students. The question that can be raised is the agency of these students—to what extent do they participate in identifying where the main blockages lie and how to design solutions?
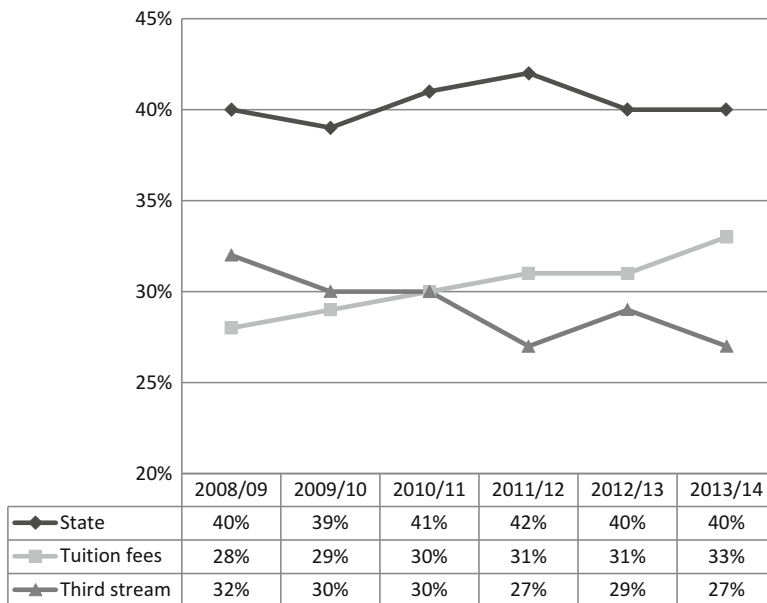
Funding to Address Inequality

A major cause of high attrition and low graduation rates is inadequate funding of higher education, highlighted effectively by students through the #FeesMustFall protests of 2015.

The global trend towards privatisation of higher education funding (Lebeau et al. 2012) is evident in South Africa too, but here, equity and redress imperatives shape complex dynamics. Higher education is viewed as a public good and the primary responsibility of the state, but the balance between three funding sources traditionally underpinning the current cost-sharing model has shifted over time:
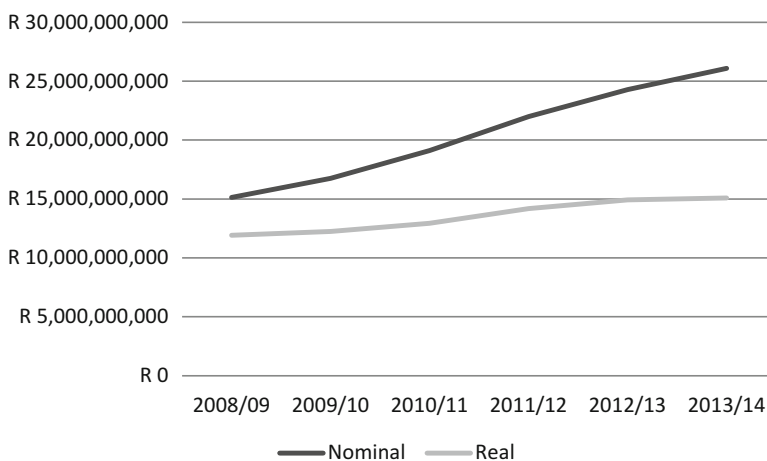
1. Government subsidy, which is determined in terms of a complex formula based on teaching and research needs and achievements (see Steyn and De Villiers 2007). Since 1994, specific earmarked funding has been allocated to promote equity and redress, but the expected large scale reprioritisation and reallocation between historically privileged and disadvantaged universities has not occurred (CHE 2007).
2. Student tuition and residence fees, the levels of which range widely between universities with stronger and weaker reputations.
3. Third stream funding, which consists of a mix of donations, bequests, alumni, industry (UILs), commercialisation, research funding. Historically advantaged universities with strong academic reputations have built up extensive reserves over time.

The relative proportion from each source is reflected in Fig. 10.3, illustrating the variability and decline of third stream income, a static state contribution and a growing proportion from tuition fees.

Research shows that over the past two decades, the proportion of public expenditure has declined, whether measured as a proportion of GDP, of total public expenditure or of the total education expenditure (Steyn and De Villiers 2006; De Villiers et al. 2013). Figure 10.4 illustrates how real growth is static, despite a nominal increase.

	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14
◆ State	40%	39%	41%	42%	40%	40%
■ Tuition fees	28%	29%	30%	31%	31%	33%
▲ Third stream	32%	30%	30%	27%	29%	27%

Fig. 10.3 Institutional funding by source 2008–2013 (*Source*: CHE 2015)

Fig. 10.4 University funding in nominal and real terms (*Source*: CHE 2015)

The national average of spending on higher education, 0.68 % of GDP in 2009, was below that of developed countries, but also below the international average of 0.82 %, the averages for South and West Asia (0.72 %), Latin America (0.81) and even Sub-Saharan Africa (0.69) (De Villiers et al. 2013). A new public funding formula introduced in 2004 was judged to be based on government priorities, rather than on the actual costs of providing education (CHE 2007). The real decline in the
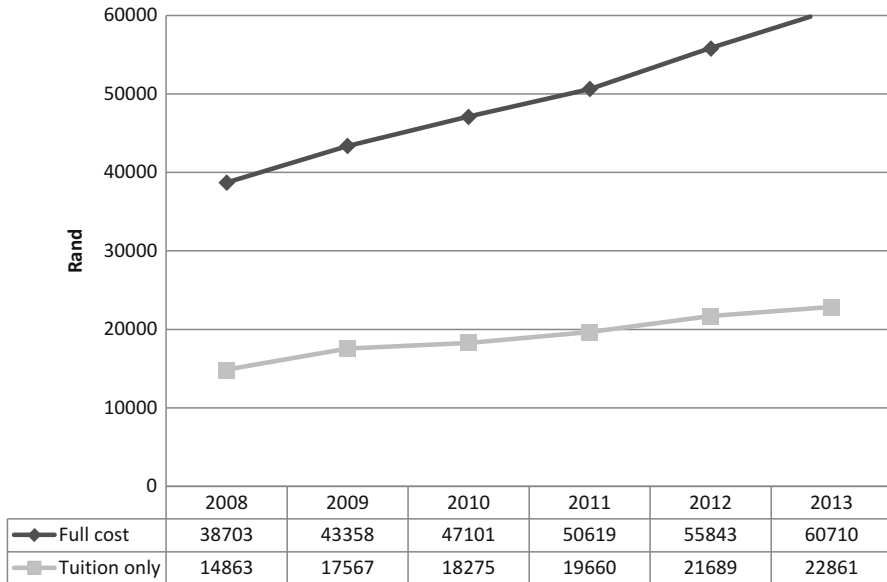
Fig. 10.5 Average fees—tuition and full cost 2008–2013 (*Source*: CHE 2015)

public subsidy per student and the variability of third steam sources thus substantially increased institutional pressures to raise fee income annually. Figure 10.5 illustrates the dramatic rise in full-costs (including residences, books and subsistence), although tuition fees on average have not increased as steeply.

Consequently, student debt has grown, which is a major contributor to the high drop-out and "churn" rates (Lebeau et al. 2012). The situation is particularly acute in rurally located and historically black universities that were historically under-resourced, and which enrol the largest proportions of students who cannot afford fees. Contestation around annual fee increases, financial exclusions and inadequate financial support consequently intensified, particularly in these universities (CHE 2009). Figure 10.6 illustrates the varying proportion of funding from each of the three sources, and hence the varying reliance on fee income, at the different universities. The well-established research universities with strong reputations have the highest proportion of third stream income (for example, UCT, Wits), while those with weak reputations have little third stream income and rely more heavily on the state, being eligible for limited funds earmarked for redress (for example, WSU, UL).

The beginning of the academic year has become a flashpoint, as students are required to pay a portion of their fees on registration, dubbed locally as an "upfront payment", with amounts ranging up to R20,000 (Furlong 2015). Financial constraints thus increasingly block formal access, but even more significantly, the success of large numbers of students, particularly the poorest and most vulnerable who are likely to be the first in their families to enter higher education.
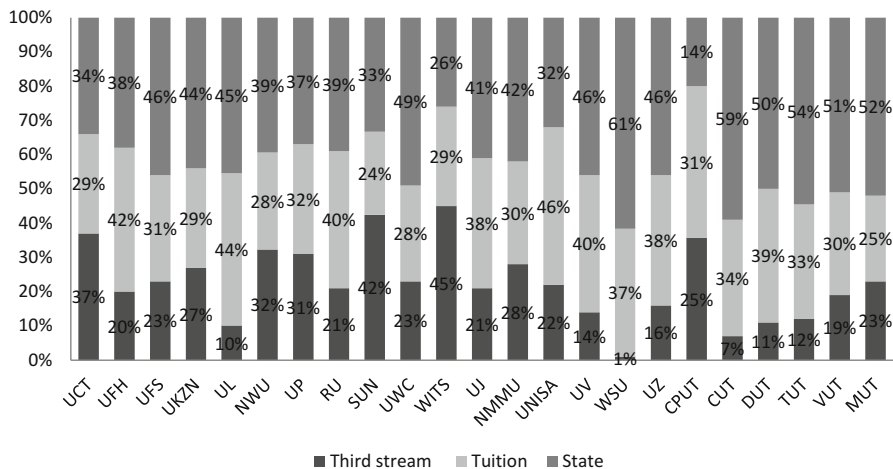
Fig. 10.6 Proportion of institutional funding per source per university 2008–2013 (*Source*: CHE 2015)

Direct State Support to Poor Students as a Means of Redress

Public efforts to redress the inequities of the past alleviate the financial constraints on some students, but are not sufficient. In 1995 government created an income contingent scheme, the National Student Financial Aid Scheme (NSFAS). The intent was to support those students who could not afford higher education, and thus, to create equal opportunities and access, as well as shift the inherited skewed racial profile of higher education participation (Cooper and Subotzky 2001). The specific mechanism adopted is loans and bursaries for a first qualification, with low interest repayments coming into effect once recipients are earning above a minimum income level.[3] As an incentive, a portion of the loan may be converted to a bursary, subject to academic results.

The NSFAS system has been decentralised and is administered through the universities. The allocation per university is determined by race: based on a calculation of the total number of black (those classified African, Coloured and Indian) students and the cost of tuition and residential fees. Each university then allocates the bursary or loans directly to students, and reports to NSFAS. Selection is subject to a means test,[4] as well as a judgement that the student has the "potential to succeed".

The NSFAS funding between 1995 and 2011 shows a growing total allocation and government portion (NSFAS also raises funds from international and national

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[3] Problems with the scheme include poor administration and tracking of debtors, which result in low repayment rates.

[4] De Villiers et al. (2013) note that this is a complex process with customised processes at diverse universities that take into account family income, household size/dependents and needs, in various combinations.
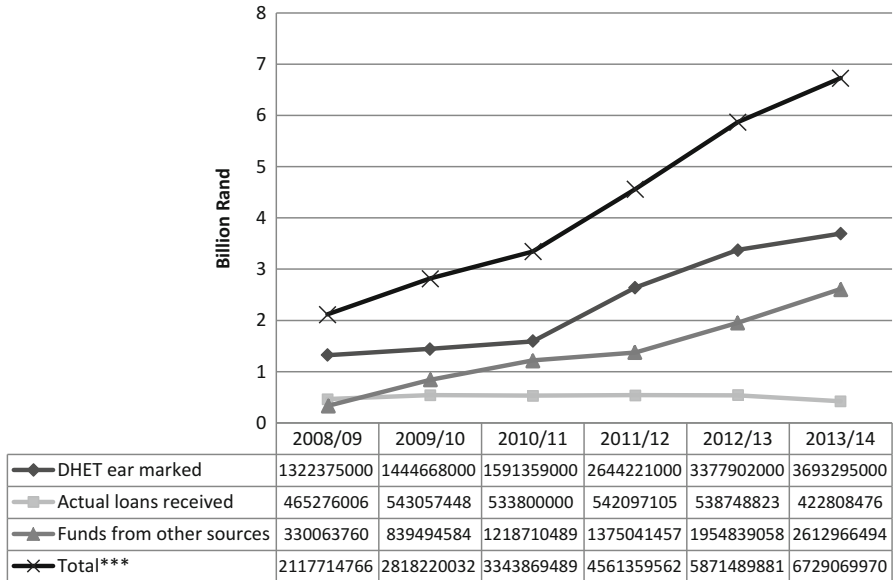
	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14
DHET ear marked	1322375000	1444668000	1591359000	2644221000	3377902000	3693295000
Actual loans received	465276006	543057448	533800000	542097105	538748823	422808476
Funds from other sources	330063760	839494584	1218710489	1375041457	1954839058	2612966494
Total***	2117714766	2818220032	3343869489	4561359562	5871489881	6729069970

Fig. 10.7 Sources for NSFAS funding (*Source*: CHE 2015)

donors). Figure 10.7 breaks down the sources of NSFAS funds between 2008 and 2013, from the state (DHET ear marked) and other sources, showing that only the recovery of loans has declined.

The number of students supported has increased steadily, from 43,876 awards benefitting 40,002 students in 1995, to benefit 135,208 students in 2009 (De Villiers et al. 2013). This core public funding mechanism is complemented by other opportunities, such as schemes to incentivise and fund Women into Science and Technology, bursaries from parastatal companies, private sector firms, public and private foundations.

The significance of financial support for ensuring epistemological access and success in higher education is highlighted by a cohort study of NSFAS beneficiaries (De Villiers et al. 2013). Students who received financial support were more successful than the average student in completing their qualifications, fewer dropped out before qualifying, and they were more likely to complete a degree rather than a certificate or diploma.

However, there is widespread consensus that the amount per student is not sufficient to cover full costs (see Fig. 10.5), leading students to accumulate debt. Weak NSFAS administrative systems, poor debt recovery processes and potential for corruption at institutional level are a major problem in ensuring that financial support reaches the intended beneficiaries. There are reports that the scheme is not sufficient to reach all those who are eligible. In particular, there remains a problem dubbed the "missing middle", of those whose households earn above the minimum threshold but cannot afford high fees. Moreover, students who qualify for NSFAS funding may experience obstacles at registration, because they cannot afford "upfront payments" and must wait for NSFAS funding to be allocated—a catch-22 situation that blocks access for many.

The chronic underfunding of the higher education system was recognised, and a slow government bureaucratic process initiated, in the form of a ministerial committee to review and propose a new funding model (DHET 2013). Contestation spread across the entire higher education system in 2015, with coordinated mass student protests in all centres and a direct national challenge to government that put the entire higher education system at risk. The #FeesMustFall student movement catalysed major financial concessions from the state, which appointed a presidential task team to advise on stabilising the system in the short term. The state proposed to halt fee increases for 2016, to compensate universities for the shortfall, and to increase the allocation to NSFAS by an additional R4.5 billion (US$282 million) (MacGregor 2016). NSFAS would increase the amounts available for up-front payments to universities, and also allocate funds to assist poor students who had accumulated debt, to enable them to complete their studies. The student protests are widely credited with forcing the state and university management to prioritise and address deep-rooted problems in higher education funding and access. The structural inequalities blocking transformation in the higher education system so that it increases opportunity and promotes inclusive development are not easily addressed by short-term financial solutions in isolation, however.

Access but Not Inclusive Development

The consensus is that despite the evident growth and shifts to more equitable enrolment patterns,

> …graduate output has not kept pace with the country's needs. High attrition and low graduation rates have largely neutralised important gains in access (CHE 2013:i).

Those most at risk of attrition are black and working class, and those most likely to graduate are white and middle class, reproducing inequality on an ongoing basis. This means that contestation around fees and epistemological access is likely to intensify, together with a new call for more inclusive and contextually relevant institutional cultures. The challenge remains to find more effective ways to produce the graduates required for inclusive economic and social development. Perhaps students should be more active agents in these processes, and not only the passive beneficiaries?

Community Service or Extending Knowledge and Technology to Inclusive Benefits?

"Inclusive development" clearly poses a challenge to universities: to reconsider not only *to whose benefit* they teach, research and innovate *for*, but equally, who *participates* in the processes of teaching, research and innovation—and how these can include the poor, the working class, the excluded and the marginalised. This section shifts focus to explore how research, innovation and outreach agendas and activity

promote inclusive development. Universities may interact with government agencies, firms, communities, welfare agencies, other knowledge partners, and more. They may do so through types of relationship that are knowledge intensive to differing degrees. For example, at one university, academics reported their involvement in church charitable projects as part of their community outreach. These activities are related to their roles as citizens, and are not integral to the academic project and do not invoke their academic knowledge. Knowledge may flow through channels that require direct engagement with external partners—such as participatory research networks—or indirect—such as students with skills required by the economy, or critical citizens. Outputs and outcomes may be to the benefit of academics, or to social and economic development. An academic would typically report a range of partners and types of relationships, including but not limited to knowledge partners and the production of students. Partners other than academics, and the activities other than core academic practices of teaching, research and innovation are of most interest.

This section draws on a survey of academics at five universities representing the three main institutional types, as well as a rurally located university, to identify their patterns of academic interaction—showing the most typical partners, types of relationships, channels, outputs and outcomes (Kruss et al. 2013; Kruss and Haupt 2016). High-level conclusions are presented here, and the detailed statistical analysis underpinning these analytical descriptions can be found in Kruss et al. (2013). The analysis aimed to highlight common trends typical across the higher education system and in the main institutional types, that could support inclusive development.

A Policy Framework to Address Global Competitiveness and the Quality of Life for All

The tendency has been for innovation policy mechanisms and funding allocations to focus primarily on scientific excellence, university responsiveness to economic needs and promoting global competitiveness. For example, legislation was introduced in 2008 to promote the utilisation and commercialisation of intellectual property developed from publicly funded research to social and economic benefit, together with a centralised coordination agency to stimulate and intensify technological innovation, and the mandatory establishment of university technology transfer offices. Pressure on universities to exploit viable knowledge and technology developed through academic research and innovation has increased steadily.

In contrast, higher education policy actors focused primarily on promoting access and equity, and responsiveness in terms of social justice and the "public good", aiming to grow "critical citizenship" (Lange 2003; Cloete et al. 2002; CHE 2003). From this perspective, it was proposed that academic engagement was required in the interests of social transformation and those most marginalised and disadvantaged in the past (Subotzky 1999; Hall 2010). From the mid-2000s, the traditional third mission of "community service" was subject to critical re-examination, and universities faced the direct policy imperative to institutionalise

"community engagement" activities. A vigorous debate emerged on what "community/academic engagement" should mean, and how academic identities, the orientations, roles and structures of the university should change to promote engagement (Hall 2010). Universities operate in a complex policy space, with multiple imperatives from different government actors shaping multiple roles, being interpreted and enacted in terms of their own historical trajectories, institutional cultures and disciplinary strengths.

Surveying University and Academic Practice Across the System

Analysis of a total sample of 2159 academics revealed that the most frequent partner, reported on a moderate to wide scale, was South African universities (weighted average index WAI of 3.14, where 1 is not at all and 4 is on a wide scale). A principal component analysis (Fig. 10.8) revealed that the most frequent partners reported were academic or knowledge partners (universities and public research institutes locally and internationally). This was not the case in the rural university, where community partners (individuals and households; and a specific local community)
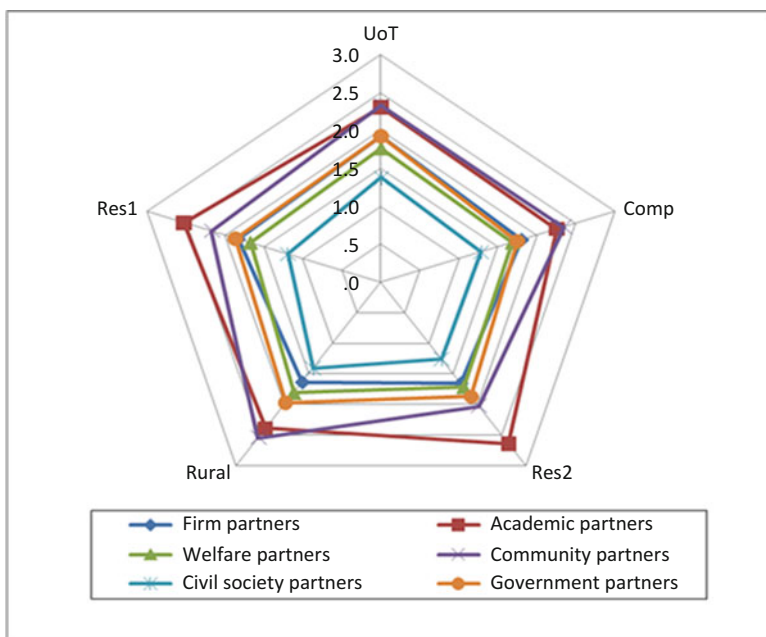
Fig. 10.8 Frequency of interaction with external partners by type of university (*Source*: Kruss et al. 2012)

were slightly more significant. The greatest variation between universities was in the frequency of community partners, which tended to be second most frequent, while government partners (national; provincial and local government agencies) tended to be third most frequent. Firm partners (SMMEs; large firms; multinational companies; sectoral associations), contrary to the policy attention paid to university–industry linkages, tended to be the second least frequent partner, with some variation between universities. Welfare partners (NGOs; welfare agencies; development agencies; community organisations and social movements) were less frequent, and civil society partners (trade unions; political parties and civics) were least frequent for all the universities.

Academics were interacting in descending order of scale, with sets of academic or community, government, welfare, firm and civil society external partners. The most frequently reported type of relationship was part of the core academic teaching mission of the university: "education of students so that they are socially responsive" (WAI of 3.1). *Alternative teaching* (continuing education or professional development; customised training and short courses; collaborative curriculum design; and alternative modes of delivery to accommodate non-traditional students) and *engaged teaching and outreach* (service learning; student voluntary outreach programmes; community-based research projects; clinical services and patient or client care; education of students so that they are socially responsive; work-integrated learning) were the predominant types of relationship (Fig. 10.9).
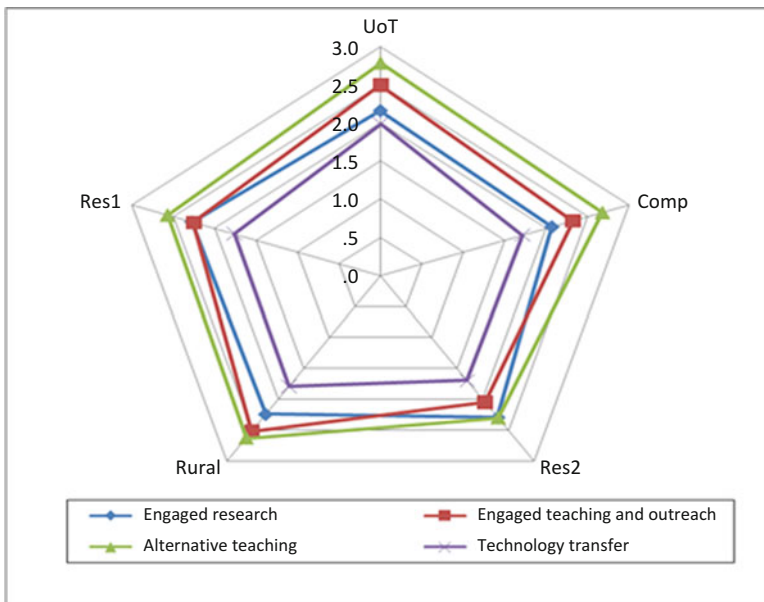

Fig. 10.9 Types of relationship per university (*Source*: Kruss et al. 2012)

There were distinct differences between universities. *Engaged research* (collaborative R&D projects; research consultancy; contract research; participatory research networks; policy research, analysis and advice) was most frequent at research university 2, and least frequent at the comprehensive university. The two research universities differed in that relationships at research university 2 (historically English) were more frequently research related than those at research university 1 (historically Afrikaans), which had the same pattern as the other three. *Technology transfer* was the least frequent at all universities, but less so at the university of technology, and more so at research university 2. Of note is that it was slightly more frequent at rural university than research university 1, an institution that prided itself on technology transfer.

Teaching-related types of relationships predominated, hence "students" were reported on a moderate to wide scale as academics' main channel of knowledge and information exchange with external partners (WAI 3.17). Although there is a great deal of congruence in the order and intensity of channels at each university (Fig. 10.10), the observed differences between the universities were statistically significant (except for the public media factor). *Customised expertise* (training and capacity development or workshops; oral or written testimony or advice; informal information exchange; intervention and development programmes; reports and pol-
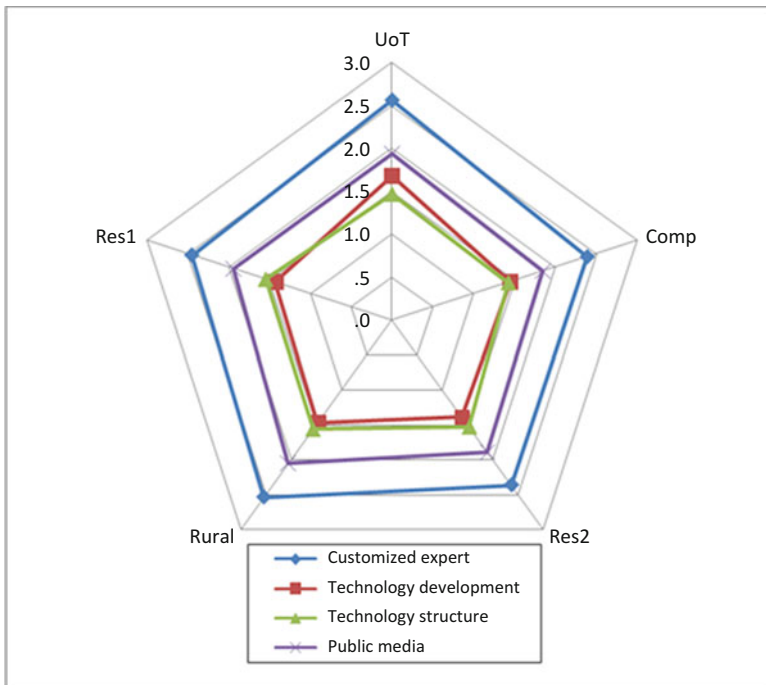

Fig. 10.10 Channels of interaction by University (*Source*: Kruss et al. 2012)

Table 10.3 Five most frequent outputs of interaction (WAI)

	1	2	3	4	WAI
Graduates with relevant skills and values	123	166	474	970	3.32
Academic collaboration	156	413	634	530	2.89
Academic publications	254	392	466	622	2.84
Dissertations	365	354	451	564	2.70
Reports, policy documents and popular publications	507	529	472	226	2.24

Source: Kruss et al. (2012)

icy briefings; cross-disciplinary networks) and *public media channels* (radio; television; newspapers; popular publications; interactive websites) were most frequent for all the universities. Public media channels are informal and very indirect, requiring no face to face engagement, and typically involve the traditional "public intellectual" role of the academic. Customised expertise requires direct interaction whether with communities or firms, but the degree of participation is not easily evident. The more formal, direct and knowledge-intensive *technology development channels* (software and technology adaptation or development; application networks and technology incubators or innovation hubs) and *technology structure channels* (patent applications and registration; spin-off firms from the university, commercial or not for profit; research contracts and commissions) were used on a closely similar frequency, with technology structure least frequent, except at the university of technology. These patterns suggest that the nature of interaction is most typically informal, often indirect and not strongly knowledge intensive.

Table 10.3 reflects that academic outputs were most frequently reported from interaction, rather than social and economic outputs to the benefit of external partners.

Figure 10.11 presents the relative frequency of each outcome factor by type of university. Academic outcomes (theoretical and methodological development in an academic field; academic and institutional reputation; relevant research focus and new research projects; participatory curriculum development; new academic programmes and materials; training and skills development and improved teaching and learning) were reported most frequently, with high means, but of note, the university of technology, the rural university, and research university 1 reported the highest frequencies, while the comprehensive university and research university 2 reported the lowest frequencies. The rural university reported the highest frequency for *community- and social development-related benefits* (community empowerment and agency, community-based campaigns, public awareness and advocacy, improved quality of life for individuals and communities, incorporation of indigenous knowledge, regional development, intervention plans and guidelines and policy interventions), while academics at the university of technology reported the *highest productivity and employment generation* outcomes (firm productivity and competitiveness; firm employment generation; novel uses of technology; and community employment generation).

Academics at *Research University 2*, with the strongest reputation, reported the lowest frequency for all three outcomes, suggesting that they do not place a high value
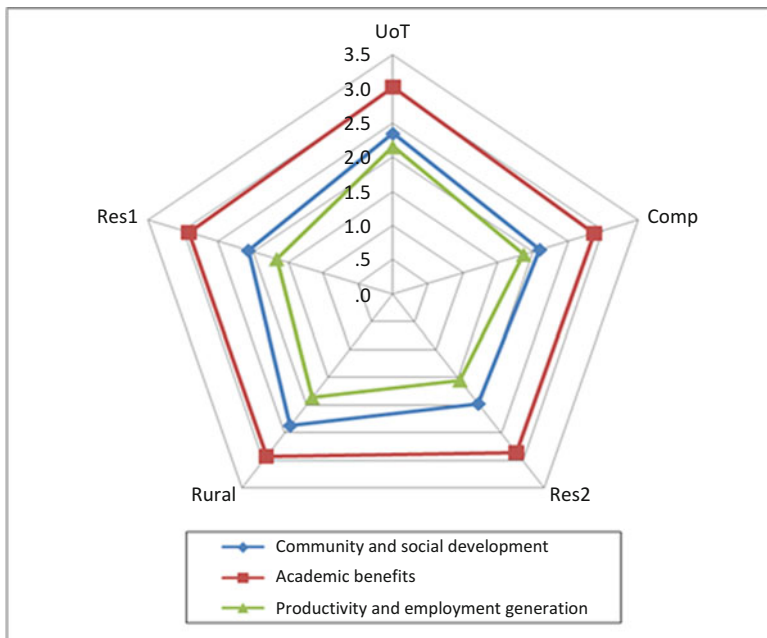
Fig. 10.11 Outcomes of interaction by University (*Source*: Kruss et al. 2012)

on the benefits of interaction. In contrast, at the university of technology, academics reported the highest *productivity and employment generation* benefits and the highest *social development* benefits, more frequently than the other four universities.

Diverse Institutional Patterns

Clearly, there are complex patterns of groups of academics interacting in different ways. Concentrations of these groups differed by knowledge field and faculty, and pockets of inclusive practice were evident in a wide range of fields. Here we provide a pen sketch of the pattern at each university, based on a more in-depth analysis of the data for its academics only, rather than aggregated across the sample.

A Fragmented Service-Oriented Pattern

Research University 1 was a well-established traditionally Afrikaans research university that had promoted an agenda of innovation and commercialisation and developed strong structures for community service and teaching-oriented

community engagement. Interaction was strongly shaped by the tension between the strategic institutional goals of growing international recognition and academic reputation on the one hand, and local relevance and compliance with national policy imperatives on the other hand. Academics largely continued with traditional activities of teaching, research and service, and there was evidence of a strong degree of fragmentation of distinct types of activity. Almost a quarter of academics reported that they did not engage at all (24 %), and 34 % interacted only on an isolated scale. A sizable group interpreted "engagement" very broadly and loosely, to include frequent interaction with only a single partner (28 %), primarily other academic partners—and these tended to be in relation to professional academic activities such as external examining or serving on boards.

A very small group of academics (14 %) reported that they interacted frequently with external health, firm, government and welfare social partners,[5] in that order. "Customised service" and "community service" teaching types of relationships were thus most frequent, whether for firm or community partners. A strong welfare and philanthropic orientation was evident in much of the practice.

A Socially Responsive, Research- and Teaching-Oriented Pattern

In contrast, interaction at *research university 2,* historically English, was shaped by the institutional promotion of responsiveness, the public good and development, linked to a devolved strategy that acknowledged the dominant institutional culture of academic freedom and the reputational priorities of academics. A widespread acceptance of "social responsiveness" was evident. For most academics, this had not changed their practice very much, and an attitude of "we have always done it" tended to prevail, as they pursued their own research agendas. A group of academics interacted more frequently, but on a limited basis with one external partner, typically other academic partners, typically in research relationships through informal and tacit channels of collaboration, and with primarily academic benefits. Much of this was related to core academic roles and responsibilities, but more explicitly oriented to the public good and development. A smaller group of academics interacted actively in networks with multiple external social partners, integrated into their research and teaching relationships and through more direct and knowledge-intensive channels, with community- and firm-related benefits as well. Socially responsive teaching relationships were an emergent trend. In this university, then, *responsive research and teaching-oriented engaged and non-engaged academic activity* tended to stand out as the main pattern.

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[5]These categories were obtained through principal component analysis of the responses for each university individually.

A Teaching-Oriented Community and Research-Oriented Firm Engagement Pattern

"Engagement" at the comprehensive university tended to a high degree of diversity, attributed to both the challenge to create a new academic institutional type and build academic reputation, and to the delays in developing a strategic policy framework in a merging institution. An institutional policy vacuum meant that engagement was driven in a decentralised and diverse way by deans, by heads of development or research or technology transfer "entities" funded by external donors or clients, and by individual champions, on the base of a long-standing commitment to engagement with the region and regional development. The heightened internal contestation of the merger process manifested in relation to reputation enhancing academic activities, cutting along old institutional fault lines.

   The pattern was thus of a group of academics that did not engage at all because they did not perceive engagement as part of their academic identity, or because of resource constraints, concentrated in specific fields. A large group of academics had a generalised commitment to engagement but had not changed their practice significantly. A group of academics engaged frequently, mostly with communities, firms or other academics, and a small group were involved in networks in a limited range of knowledge fields. There was a strong institutional focus on the local and regional levels, rather than engagement at the national or international levels. Indications were a shift to new forms of teaching- and learning-oriented types of relationship, evident in the predominance of student learning and alternative teaching types of relationships, and indirect channels of interaction. Little of the engaged activity was oriented to research and innovation. Two distinct clusters of active "engagement" stood out at this university—*community partners associated with teaching-oriented interaction, and firm and academic partners associated with research-oriented interaction.*

A Development-Oriented Service Pattern

A more active development orientation was evident at the *rural university,* in line with its institutional mission, shaped by its historical location in an impoverished rural region and recently, an urban campus, its strong political but relatively weak research reputation, and catalysed by academic champions directly reporting to senior institutional leadership. The most actively engaged academics tended to be those based in "boundary spanning" centres and institutes reporting directly to the vice chancellor, not well inserted into formal institutional structures. The pattern here too, was of passive awareness of community engagement on the part of many academics. There were two similar sized groups of academics that actively engaged with a single partner, or networked with multiple partners. The academics who engaged actively did so primarily with other academics, but with community and

rural partners almost equally significant. The forms of interaction were distinctly development oriented, at the local and regional level, with service types of relationships and direct channels of interaction with these partners prevailing. Outputs were similar to the other universities, primarily academic, but the outcomes and benefits reported were more strongly local development and community oriented. A *development-oriented service* pattern thus prevailed at this university.

A Firm and User Teaching- and Research-Oriented Pattern

Interaction at the *university of technology* reflects its distinctive strategic focus on technology and workplace learning, and its battle to forge a new identity and build a distinctive academic reputation. The institutional framework that aimed to promote "community engagement" was defined primarily in relation to teaching and learning, in terms of work-integrated learning and service learning, requiring a paradigm shift on the part of many academics.

Many academics did not see themselves as interacting at all. A small group engaged in a very limited way, in isolated instances. A larger group tended to engage quite frequently and quite intensely with multiple partners, primarily firm and government, and then, community development, partners. Education of responsive students and work-integrated learning were the most frequently reported type of relationship, but analysis showed that these had low importance for academics. Community-based research, customised training and various firm-oriented types of relationships were more important, and the channels of interaction tended to be tacit, more strongly related to technology transfer or user-oriented than to community-based interaction. A range of outcomes were primarily to the benefit of academics, but also, more significant for firms than for other social partners. A *firm- and user-oriented, teaching and research pattern* tended to prevail at this university.

How Do These Patterns of Interaction Promote Inclusive Development?

The pattern in each university is complex and multi-faceted, diverse in each knowledge field, and cannot be easily and neatly categorised. Nevertheless, there are clear differences between the universities that for the most part are consistent with the strategic challenges faced by distinct institutional types, intersecting with the historical trajectories and institutional cultures of specific universities. The patterns provide an empirical base to understand how academics in different types of university enact multiple roles, and contribute to inclusive social and economic development.

The general awareness of and commitment to interaction and socio-economic development on the part of most academics is incontrovertible. However, there is evidence of conceptual slippage and confusion: core academic activities were reported as engaged activities, evident in the large number of academics who interacted with a single, academic partner, for example.

Academics interacted in descending order of scale, with sets of academic or community, government, welfare, firm and civil society external partners. The tendency for engagement to be oriented to teaching and learning, or to outreach and service was notable. Alternative teaching-related types of relationships predominated. There is less activity that is oriented to research. There is very little activity that is oriented to innovation and technology transfer, whether social innovation or economic innovation, whether in relation to firms or to communities. The channels of interaction were most typically informal, often indirect and not strongly knowledge intensive. The outputs and outcomes were primarily to academic benefit. Few outputs or outcomes of direct benefit to marginalised communities were reported.

Academics were more likely to conduct scientific research that could impact on the quality of life of communities, in relation to alternative energy, water, sanitation or health, but in an indirect manner. For example, university scientists research new treatments for HIV/Aids or tuberculosis that could potentially have a wide health impact. Or nanotechnology research designed low-cost water filters but without the participation of potential users, nor the commercialisation to diffuse this new technology to those who could benefit. The challenge for inclusive development is to strengthen linkages and find ways for marginalised groups to be part of research processes and to directly access university research and innovation.

Facilitating Knowledge Flows: External Interface Mechanisms

Qualitative research in the five universities revealed that emergent trends are evident, in the form of new external interface mechanisms to facilitate knowledge flows between universities and marginalised communities. Some are experimenting with new organisational forms to harness academic and scientific knowledge in more direct forms of partnership with community actors. This section draws on case studies to illustrate the kinds of external interface mechanisms universities are designing to promote the participation required for inclusive development. Universities and academics are more comfortable in teaching and research related to improving the quality of life, in fields such as health, water, energy or education, but grapple to find mechanisms to interact around livelihoods and entrepreneurship. Here we first consider some of the traditional and most widely found interface mechanisms to enhance the quality of life, and then, outline emergent trends towards social entrepreneurship, such as science shops to support community innovation, technology platforms to support SMMEs and community-based innovation hubs and incubators.

Traditional and Evolving Mechanisms to Link Teaching Students and Communities

Students are a frequent channel of interaction, and one of the most frequently reported outputs was students with a developed social conscience, critical citizens who are better equipped to work in an inclusive manner recognising diversity. In this regard, there are a number of traditional interface mechanisms that are evolving into new forms, in line with interpretations of the community engagement mandate.

There have been significant shifts from the past philanthropic and welfare-oriented practices of "community service", but these may be reproduced in new forms in some universities' community engagement activities. Dedicated university centres or departments coordinate students' *civic involvement* in social and community projects, through community service and volunteerism, playing a brokerage role linking community partners and students seeking opportunities to engage. Long-established student welfare structures also play an intermediary role linking students with external community structures. Such student volunteering, community service and activities to promote the development of critical citizens largely take place outside the formal curriculum, and have a welfare or service orientation. Typical activities include tutoring school students, upgrading or repairing facilities at schools, community centres, NGOs, collecting funds or resources and so on.

A more recent student-oriented external interface mechanism is the growth of *service learning programmes*. Traditionally, professionally oriented programmes such as law and medicine hosted free or low-cost clinics that are used to train students, and these continue to provide a community service. A new to South Africa tradition of service learning (McMillan et al. 2013) was stimulated initially by a Community-Higher Education-Service Partnership programme with donor funding (Lazarus 1999; Bender et al. 2006; Lazarus et al. 2008). Pilot programmes were supported in partner universities, aimed to inform national and institutional policies and implementation of community service learning programmes across the higher education system. Here too, a differentiated institutional response was evident. An evaluation study found that the institutionalisation of service learning in academic practice was very uneven, with institutions interpreting the concept and devising programmes in their own ways (Mouton and Wildschut 2005). In some cases, these initiatives were underpinned by a philanthropic position of social welfare services to the disadvantaged, a notion that entailed little change to the university or to the academic project. In others, it was recognised that rather than "any add-on bit of welfarism", service learning should be entrenched in core academic activities, articulated in a concept of "integrated community service" (Fourie 2006:10). Some universities have begun to integrate a service learning component into all their degree programmes, changing the way they teach.

Township-based satellite campuses, typically inherited by formerly white research universities through the national institutional restructuring process, are used as a dedicated platform for community service and engagement programmes

in some universities. Some universities had long established facilities in rural areas for outreach programmes in health and education, for example, offering professional education and conducting research with a more grounded exposure to the realities of the daily life of many South Africans. The new campuses typically have a niche area of focus, such as science and mathematics. Professional community-based clinics and school-based programmes are located on these campuses and used as bases for service learning, professional development and community service programmes, involving academics and students. A limited range of academic programmes may also be delivered on these campuses, to facilitate access to impoverished communities. Such a physical presence can serve as a direct channel to facilitate wider access to formal institutions on the part of the poor and the marginalised.

These service-oriented programmes may be of indirect benefit to the communities in which they are situated. They are more likely to be of benefit to the reputation of the university, and at best, they may change the way the university teaches quite fundamentally. At worst, they are likely to be of greatest benefit to individual students, and change little in the way the academic project functions.

Structured Links to Access University Knowledge

There is a wide range of external interface mechanisms that universities are putting in place to link potential knowledge users into university expertise more effectively.

One is strategic partnerships with local or provincial government, to connect university activities to respond to local economic and social development goals in a more coordinated manner. These are typically managed through formal collaboration agreements that may include all the universities in a city region or province. The agreements typically facilitate interaction with city and provincial government structures, manifest in projects in specific economic sectors or professions, involving different academics and faculties over time. Here, the channels of interaction are typically indirect, in that the projects may impact positively on the quality of life of selected groups or communities in general. Examples are engineering expertise to improve transportation, collaboration to enhance professional education and training in scarce skills fields, research into low-cost sanitation or health problems, and so on. Universities may also interface with local economic development through participation in regional or local government science and technology parks, innovation hubs or sectoral technology platforms.

A direct, brokerage interface mechanism, influenced by global trends, is to set up a "science shop" located in a local township, to connect external community demand with internal research and professional expertise, skills and resources (Penfold and Goodman 2011). Academics or students can identify research topics of relevance to communities, and communities can be assisted to access expertise to provide research, evaluation or other expertise to find solutions to their problems. These typically have a wide reach and are oriented to address issues that can impact posi-

tively on the quality of life, towards social development. The challenges of changing university practice to embed such a new model are considerable, and early evidence from one pilot was not very encouraging in its reach, outcomes and potential impact (Favish et al. 2013).

An Emergent Trend Towards Social Enterprises?

A direct channel of interaction oriented to entrepreneurship and innovation is a technology platform to promote linkages with firms and other users, an external interface mechanism that is physically located within and more tightly integrated into the higher education institutions. The Tshumisano Technology Stations Programme is an instrument of national science and technology policy to provide financial and technical[6] support to universities of technology, to enable their interaction with technology-based SMMEs in specific industrial sectors related to regional priorities. Funding draws on multiple sources, is quite generous, and is used to support equipment, staff, interns and the development of intellectual property. The technology station is a distinctive organisational form within the South African higher education sector, operating as a "technological nursery". It typically includes lecturers, researchers, interns and students, who benefit from a well-funded and well-equipped set of laboratories in line with current requirements of a focus industrial sector. Their mandate is to provide innovation support to SMMEs, but in practice they may engage with the full range of firms, from micro-enterprises to multinational companies. Significantly, they report engagements that are livelihood-oriented and based in informal settings, for example, with community co-operatives, NGOs and social enterprises.

An example of a clothing technology station provides some insight into their operation and potential (Kruss and Gastrow 2015). The key areas identified as lacking locally were manufacturing advisory services, and access to specialised equipment, which informed their niche focus. To provide access to equipment for SMMEs or community enterprises, they leveraged the capital equipment at their disposal. For example, an extensive product-testing facility was accredited by a large South African clothing retailer; the station owned an expensive button-hole machine; and they used a new technology to create virtual prototypes of products, using software to virtually clothe an avatar with digitally designed garments. This technology is relatively new to the industry, in South Africa. One advantage of using this software is that it saves time compared to manually creating prototypes, and it can interface with older technologies. There was evidence of multiple projects with community-based co-operatives and social

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[6] A bilateral agreement between the DST and Deutsche Gesellschaft fur Internationale Zusammenarbeit (GTZ) was established to provide technical support to the Technology Stations Programme. GTZ contributed towards strengthening the TSP through skills development and international links and visits, either by experts or to places where TSP stakeholders could learn.

enterprises to design such prototypes and patterns. The technology station also ran short courses and accredited training programmes that were mostly attended by large firms and SMMEs, cross-subsidising cooperatives and community-based enterprises.

Universities located in isolated rural areas have designed agricultural parks, using the model for an innovation hub for small businesses in urban-based universities, with the intention of replication on a larger scale across small rural towns and communities (Kruss and Gastrow 2015). One such example was highly formalised, and based at the university, underpinned by a formal memorandum of agreement with provincial government departments, to support provincial and national development plans to alleviate poverty, create jobs and promote food security. The university recognised the challenges that small-scale farmers face in accessing markets, growing quality produce that meets regulatory standards, meeting market demand with a steady and timely product, and transporting products to market. Starting from this premise, that the most important challenge is to empower small-scale farmers to participate in formal markets, the university designed the agricultural park model. Public procurement policies at provincial and local level that promote the participation of SMMEs and marginalised producers provided excellent opportunities to secure large markets for such a hub. The agricultural park houses a set of co-operatives that employ retrenched workers and provide an opportunity for student learning and staff research. The current project is based on three functionally interconnected units: a nursery for seedlings to supply plants to community farmers, a farming enterprise in close proximity, and an agro-processing unit that serves local farmers and the co-operatives farming the fields. The focus is on growing vegetables, and the agro-processing facility's main product currently is dried processed vegetables.

However, the evidence suggests that there are gaps and misalignments in the interactions between academics, students, communities and local government, so that the full potential of the opportunities is not realised, and markets are not accessed (Kruss and Gastrow 2015). For instance, large-scale and expensive equipment such as industrial dryers in the processing unit stood idle; co-operatives produced at only a small fraction of the potential output of the facility; farmers sold to local markets on a very small scale, and were unable ensure the livelihoods of their members.

A similar example, a "social innovation hub" located in an impoverished urban township, is jointly funded by a centre for social innovation at a research university (itself funding by a private sector philanthropic foundation), and a national government programme to address unemployment. The aim is to promote entrepreneurship for micro-enterprises that at the same time, promotes socio-economic development (see Box 10.1), and creates a model for inclusive regeneration of townships. The Hub will operate as an incubator providing business support and training to start-ups and micro-enterprises. Concerns were raised about the ability of impoverished residents to afford to join the incubator, but this project was at too early a stage to assess outcomes.

Box 10.1. A Social Innovation Hub at the Core of a Township Regeneration Project

Philippi is one of the larger townships situated outside of Cape Town. It is part of the Cape Flats with a population at around 700,000 people. Philippi, like many other townships, is an underdeveloped and under-serviced area with high unemployment rates.

Philippi Village is a new development that aims to shift that by creating a space in the centre of Philippi that will nurture entrepreneurs, supporting skills development and harnessing job creation. The development aims to invigorate this area with job opportunities and recreational activities.

Philippi Village will be an entrepreneurial development with a social impact. It will be a multi-use, multi-faceted environment that will house local businesses and entrepreneurs, an event and entertainment centre, sports and conferencing facilities, and an education space.

The Hub compromises a call centre, stalls for vendors, conference spaces, reception services, an eatery, personal storage areas, cleaning and utilities, and meeting amenities. An on-site crèche is already open to accommodate working parents, and a college also operates from the premises. A City library located at Crossroads will soon relocate to the building's ground floor.

http://futurecapetown.com/2015/09/future-cape-town-how-phillipi-village-could-become-a-model-for-inclusive-township-regeneration/#.Vr3hONgU_IU

Conclusions

What are the insights for universities globally, engaging in a world that is struggling to deal with growing inequality and social disaffection, from the experience of universities in one of the most unequal countries in the world?

South African higher education has succeeded in massification and opening formal access, but the challenges of epistemological access and ensuring success—for individuals and for social and economic development—are immense. The funding constraints on student success raise critical questions about how the state prioritises its allocation to higher education, particularly in the current political context of high levels of fraud, patronage, misallocation and wastage in public spending. Whether the state can afford a larger allocation, and whether it should make such an allocation of public funds to higher education—as opposed to early childhood development or primary education—are critical issues for economic growth and inclusive development. How the private sector can partner to contribute to third stream income, and directly to individual students' tuition costs, in the interests of inclusive development and growth is another area for public intervention. Universities themselves are required to deepen their efforts to ensure epistemological access and suc-

cess, at the core of their knowledge generation roles, and there is much to learn from the experience of South African academic educators.

Universities interact with communities primarily in relation to alternative or engaged forms of teaching and professional education, so that students are better prepared for the realities of work and diversity in South Africa. Communities are typically involved in one-directional flows of knowledge from universities, and the extent to which interaction is science and technology-intensive is limited. These forms of interaction might be to the benefit of marginalised communities, typically as passive beneficiaries, but they might equally be exploitative and primarily to the benefit of the university and the individual student.

Emergent practices of participatory processes to the benefit of communities are evident, and these need to be deepened and extended more widely across faculties and departments. External interface structures that can link marginalised communities and the poor as active agents, to academics and university facilities, in the same way that relationships with firms are built, are a critical mechanism for transformation.

Finally, the strong evidence of differentiation raises questions about the roles of different types of university—should there be differentiated roles in contributing to inclusive development, and how would these be promoted and supported by science and technology, and higher education policy?

References

Bender, G., Daniels, P., Lazarus, J., Naude, L., & Sattar, K. (2006). *Service-learning in the curriculum: A resource for higher education institutions*. Pretoria: Council on Higher Education.

Boughey, C. (2003). From equity to efficiency. Access to higher education in South Africa. *Arts and Humanities in Higher Education, 2*(1), 65–71.

Boughey, C., & Niven, P. (2012). The emergence of research in the South African academic development movement. *Higher Education Research & Development., 31*(5), 641–653.

Cassiolato, J. E., Lastres, H. M. M., & Maciel, M. L. (Eds.). (2003). *Systems of innovation and development: Evidence from Brazil*. Cheltenham: Edward Elgar Publishing.

Cloete, N., Fehnel, D., Maasen, P., Moja, T., Perold, H., & Gibbon, T. (Eds.). (2002). *Transformation in higher education: Global pressures and local realities in South Africa*. Cape Town: Juta.

Collins, K. (2013). Transforming teaching and learning in South Africa: First year in the bachelor of social work. *Social Work Education: The International Journal, 32*(4), 523–537.

Cooper, D., & Subotzky, G. (2001). *The skewed revolution: Trends in South African higher education 1988–1998*. Belville: Education Policy Unit, University of Western Cape.

Council on Higher Education (CHE). (2003, June 27–28). *Proceedings of the Colloquium: Building Relationships Between Higher Education and the Private and Public Sectors*. Sandton, South Africa.

Council of Higher Education (CHE). (2004). *South African higher education in the first decade of democracy*. Pretoria: Council of Higher Education.

Council of Higher Education (CHE). (2006). *Ten years of higher education under democracy*. Kagisano No. 4. Pretoria: Council of Higher Education.

Council of Higher Education (CHE). (2007). *Review of higher education in South Africa. Selected themes*. Pretoria: Council of Higher Education.

Council of Higher Education (CHE). (2009). *The state of higher education in South Africa*. Higher Education Monitor 8. Pretoria: Council of Higher Education.

Council of Higher Education (CHE). (2013). *A proposal for undergraduate curriculum reform in South Africa: The case for a flexible curriculum structure*. Pretoria: Council of Higher Education.

Council of Higher Education (CHE). (2015). *2013 Higher education data: Participation*. Pretoria: Council of Higher Education.

Cozzens, S., & Sutz, J. (2014). Innovation in informal settings: Reflections and proposals for a research agenda. *Innovation and Development, 4*(1), 5–31.

Dalum, B., Johnson, B., & Lundvall, B. A. (2010). Public policy in the learning economy. In B. A. Lundvall (Ed.), *National systems of innovation. Towards a theory of innovation and interactive learning*. London: Anthem Press.

De Villiers, P., Van Wyk, C., & Van der Berg, S. (2013). The first five years project—A cohort study of students awarded NSFAS loans in the first five years 2000–2004. Stellenbosch Economics Working Paper 11/13.

Department of Higher Education and Training (DHET). (2013). *Report of the Ministerial Committee for the review of the funding of universities*. Pretoria: DHET.

Downie, A. (2010, July). University growth in Brazil is undermined by high dropout rates. *The Chronicle of Higher Education*.

Essop, A. (2015). *Content analysis of the Baseline Institutional Submissions for Phase 1 of the Quality Enhancement Project*. Pretoria: Council of Higher Education (CHE).

Fajnzylber, F. (1989). Industrialización en América Latina: De la 'caja negra' al 'casillero vacío': Comparación de patrones contemporáneos de industrialización. Cuadernos de la CEPAL No 60 (LC/G.1534/Rev.1-P). Santiago de Chile: Comisión Económica para América Latina y el Caribe (CEPAL).

Favish, J., Ngcelwane, S., Schmid, B., Schmidt, B., & Perez, T. (2013). *Report on the UCT Knowledge Co-op Pilot for the Steering Committee*. Unpublished report, University of Cape Town.

Fourie (2006). Service Learning.

Furlong, A. (2015, January). How much do university students have to pay at registration? *Groundup*.

George, G., McGahan, A., & Prabhu, J. (2012). Innovation for inclusive growth: Towards a theoretical framework and a research agenda. *Journal of Management Studies, 49*(4) 661–683.

Gomez-Marquez, J. (2010). *International Conference "Science Against Poverty"*. Segovia, Spain. http://www.scienceagainstpoverty.es/Resources/documentos/Programa/ppt/d2/Jose_Gomez_ppt.pdf.

Hall, M. (2010, January). *Community engagement in South African higher education* (pp. 1–52). Kagisano No. 6. South Africa: Council on Higher Education.

Jaffer, S., Ng'ambi, D., & Czerniewicz, L. (2007). The role of ICTs in higher education in South Africa: One strategy for addressing teaching and learning challenges. *International Journal of Education and Development Using ICT* [Online], *3*(4). Retrieved from http://ijedict.dec.uwi.edu/viewarticle.php?id=421.

Kruss, G., Visser, M., Aphane, M., & Haupt, G. (2013) Academic interaction with social partners: Investigating the contribution of universities to economic and social development. Cape Town: HSRC Press.

Kruss, G., & Gastrow, M. (2015). *Linking universities and marginalised communities*. Cape Town: HSRC Press.

Kruss, G., & Haupt, G. (2016). Luring the academic soul: Promoting academic engagement in South African universities. *Higher Education Research and Development*. doi:10.1080/07294360.2015.1137874.

Kruss, G., Visser, M., Aphane, M., & Haupt, G. (2013). *Academic interaction with social partners: Investigating the contribution of universities to economic and social development*. Cape Town: HSRC Press.

Lebeau, Y., Stumpf, R., Brown, R., Lucchesi, M., & Kwiek, M. (2012). Who shall pay for the public good? Comparative trends in the funding crisis of public higher education. *Compare: A Journal of Comparative and International Education, 42*(1), 137–157.

Lange, L. (2003). *Critical reflections on the notion of engagement*. Pretoria: Council on Higher Education.

Lazarus, J. (1999). *Towards a model for the reconstruction and development of civil society and the transformation of higher education in relation to community needs*. Braamfontein, South Africa: JET.

Lazarus, J., Erasmus, M., Hendricks, D., Nduna, J., & Slamat, J. (2008). Embedding community engagement in South African higher education. *Education, Citzenship and Social Justice, 3*(1), 57–83.

Letseka, M., Cosser, M., Breier, M., & Visser, M. (Eds.). (2009). *Student retention and graduate destination. Higher education and labour market access and success*. Cape Town: HSRC Press.

Mabila, T., Malatje, S., Addo-Bediako, A., Kazeni, M., & Mathabatha, S. (2006). The role of foundation programmes in science education: The UNIFY programme at the University of Limpopo, South Africa. *International Journal of Educational Development, 26*(3), 295–304.

MacGregor, K. (2012, January). Plan for 1.5 million students by 2030. *University World News*, (88). Retrieved from. http://www.universityworldnews.com/article.php?story=20120115093819516

MacGregor, K. (2014, April). Higher education in the 20th year of democracy. *University World News*, (317). Retrieved from http://www.universityworldnews.com/article.php?story=20140425131554856

MacGregor, K. (2016, January). Government boosts student aid following #FeesMustFall. *University World News*, (395). Retrieved from http://www.universityworldnews.com/article.php?story=20160107175110493

Makoni, M. (2014, October). Higher education is not cheap. *University World News*, (340). Retrieved from http://www.universityworldnews.com/article.php?story=2014102313130139

McMillan, J., DuPlessis, C., Van Dyk, A., Dippenaar, W., & Carvalho-Malekane, W. (2013). *Service learning in South Africa*. Cape Town: Oxford University Press Southern Africa.

Morrow, W. (2009). *Bounds of democracy: Epistemological access in higher education*. Cape Town: HSRC Press.

Mouton, J., & Wildschut, L. (2005). Service learning in South Africa: Lessons learnt through systematic evaluation. *Acta Academica, 37*(3), 116–150.

Murray, M. (2014). Factors affecting graduation and student drop-out rates at University of KwaZulu-Natal. *South African Journal of Science, 110*(11/12), 1–6.

Nkosi, B. (2014, February). High fees keep students out of university. *Sunday Independent.*

Penfold, E., & Goodman, S. (2011). *An evaluation of a knowledge partnership. A review of the literature*. Unpublished paper, University of Cape Town.

Piketty, T. (2014). *Capital in the twenty-first century*. Cambridge, MA: The Belknapf Press of the Harvard University Press.

Pym, J., Goodman, S., & Patsika, N. (2011). Does belonging matter? Exploring the role of social connectedness as a critical factor in students' transition to higher education. *Psychology in Society* (42), 35–50.

Ramos, R. A., Ranieri, R., & Lammens, J. (2013). *Mapping inclusive growth*. Working Paper no 105. Brasilia: International Policy Centre for Inclusive Growth (IPC-IG).

Ranieri, R., & Almeida Ramos, R. (2013). *Inclusive growth: Building up a concept*. Working Paper no 104. Brasilia: International Policy Centre for Inclusive Growth (IPC-IG).

Scott, I., Yeld, N., & Hendry, J. (2007). *Higher education monitor: A case for improving teaching and learning in South African higher education*. Pretoria: Council on Higher Education.

Statistics, S. A. (2014). *Mid-year population estimates. Statistical release PO302*. Pretoria: Statistics SA.

Steyn, G., & De Villiers, P. (2006). *The impact of changing funding sources on higher education institutions in South Africa*. Higher education monitor. Pretoria: Council on Higher Education.

Steyn, G., & De Villiers, P. (2007). Public funding of higher education in South Africa by means of formulae. In *Review of higher education in South Africa*. Selected themes. Pretoria: CHE.

Strydom, J. F., Basson, N., & Mentz, M. (2012). *Enhancing the quality of teaching and learning: Using student engagement data to establish a culture of evidence*. Pretoria: South African Survey of Student Engagement (SASSE) and Council on Higher Education (CHE).

Subotzky, G. (1999). Alternatives to the entrepreneurial university: New modes of knowledge production in community service programs. *Higher Education, 38*, 401–440.

World Bank. (2016). Retrieved February 3, 2016, from http://data.worldbank.org/indicator/SE.TER.ENRR/countries.

Chapter 11
Universities and Inclusive Innovation for Development: Concepts and Practices in Vietnam

Ca Tran Ngoc

Abstract This chapter looks at the landscape for inclusive innovation in development in Vietnam. It offers an overall conceptual framework used in Southeast Asia and elsewhere, and discusses how it is applied in the Vietnamese context. Despite different specific nuances of inclusive or social innovation, the philosophy for inclusivity of innovation activities is evident in the development process of the country. The author analyzes the Vietnamese overall practice for inclusiveness of innovation actors and shows that there are a number of policies adopted in university system that promote inclusive development. Still, this is not sufficient, nor specific enough; financial mechanisms, incentive systems as well as re-organization of the university structure remain to be improved. At the same time, as the cases of Hanoi Pharmaceutical University, Hanoi Architecture University, and Hoa Sen University in HoChiMinh city amply illustrate, even in a very nascent context, universities in agriculture and healthcare sectors engage in social and inclusive innovation in addressing development needs. This points to the need for more a conducive government policy environment to spearhead this process.

Keywords Vietnam • University system • Inclusive development • Social innovation • Agriculture • Healthcare

Introduction

The development process in Vietnam has experienced some radical changes during the last few decades. Since the mid-1980s, the economy is experiencing several transitions simultaneously: the country is moving from a centrally planned to a market economy regime, from an agricultural to an industrial economic structure and from an isolated market mechanism to an open and more internationally integrated

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economy. For several decades, Vietnam has aimed at both rapid economic growth and social and equitable sustainability. More specifically the country tried to achieve MDG (Millennium Development Goals) and deal with multiple challenges of globalization. In this context, there can be observed a combination of various contrasting modes of operation and development models such as high-tech orientation next to poverty reduction. Despite a rapid urbanization, there are still large numbers of poor communities in rural areas. While growth is sustained at a reasonable rate (of around 6–7 % annually), the gap between rich and poor is widening, despite the achievement of MDG in significantly reducing poverty. As such, there is a quest for innovative solution that serve the needs of society at large, moreover of the poor people. The notion of innovation that is inclusive for development or inclusive innovation is a case in point. Pursuing this process, all actors and stakeholders in the society have role to play, and among them, academic organizations like R&D institutes and universities should be crucial. This chapter will try to analyze the evolvement of the concept in Vietnam and some ASEAN countries. It discusses the national context and conceptualization of inclusive innovation, as well as analyzes practices in some ASEAN countries and Vietnam. After that the chapter addresses the activities by the university system with regard to inclusive innovation in terms of overall approaches and then moves to present some specific cases of universities. The chapter concludes with some policy implications for inclusive innovation process.

Inclusive and Social Innovation for Development: Conceptualization and Approaches in ASEAN and Vietnam

The concept of inclusive innovation tends to have multiple facets, depending on the context and specific conditions of various economies and societies. In general, most concepts argue for inclusive innovation as innovation for people at the Base of Pyramid (BoP) of development, no matter by whom it is created by. For example, inclusive innovation is the means by which new goods and services are developed for and/or by the billions living on the lowest incomes (Foster and Heek 2013). When it comes to a rural context, some call it Rural Innovation, aiming at serving farmers and people in rural areas (Sanginga et al. 2004). Responsible Innovation (Voeten et al. 2015) is called so for being more responsible to disadvantaged and poor people when innovating or providing innovative solutions, or it could mean taking care of the future through collective stewardship of science and innovation in the present (Stilgoe 2013).

At the same time, many other authors from the USA and UK use the terms Frugal innovation or frugal engineering for the process of reducing the complexity and cost of a good and its production. Usually this refers to removing nonessential features from a durable good in order to sell it in developing countries. Such services and products need not be of inferior quality but must be provided cheaply (Bhatti 2012). A research group supported by IDRC, the Group of Research on Inclusive Innovation for Inclusive Development (GRIID), emphasizes more explicitly inclusive innova-

tion. In some countries like China and India, even since 1970s, the idea of this type of innovation is called innovation by the poor and people conducting this are barefoot innovators (Chandra 2014).

During the 90s, UNESCO organized a project working on innovation at grassroot level, or grassroot innovation (Smith 2012). This reflects a growing interest in "inclusive innovation" approaches, including many that operate at a grassroots level. Activists and communities are looking for ways to develop solutions for the poor and disadvantaged who tend to be outside of the benefits of mainstream growth.

One of the notable related concepts is Social Innovation. Social innovation is commonly defined as new ideas (products, services and business models) that simultaneously meet social needs and create new social relationships or collaborations. These innovations are considered both good for society and capable of enacting greater societal involvement in the provision of social services (Murray et al. 2010). As such, only those innovations having social purposes would be social innovation. The rest of innovation activities, which may have mere economic and business benefits, are not having social purposes. As for inclusive innovation, by addressing the needs of the poor and disadvantaged, and first of all having social purposes, it is therefore social innovation. Following this logic, there can be social innovation that is not very inclusive, conducted not by all (inclusively) and not always for all. Thus, the two terms might not be identical and there are attempts to separate these as different concepts, but the boundaries seem rather blurred. Many authors tend to put social innovation as the central incorporation of other innovation activities such as CSR, inclusive business models for BoP, social entrepreneurship and corporate social innovation (Osburg and Schmidpeter 2013).

Among authors advocating strongly and more specifically for the idea of inclusive innovation is Mashelkar from Global Research Alliance. He put the philosophy of inclusive innovation as *"More from Less for More": More* products and services, from *Less* resources, for *More* people (Mashelkar 2011). The momentum for this new trend has reached the universities. Harvard University organized a summit on Inclusive Innovation while Stanford has their inclusive innovation program. Under the perspective of these views, one can say that Innovation for Inclusive Development or Inclusive Innovation in many senses is understood as *Innovation for All* and created/implemented *by All*.

As can be seen above, the concept of inclusive innovation is more popular in some places, and social innovation is more in use by others. Although these are two different notions (not too far away from each other though), many analysts and policy makers tend to combine both in dealing with problem of innovation for the purpose of social inclusion or inclusive development. Analyses reveal that there is almost the same philosophy in these streams, with even more diversified names to be used. With this in mind, this chapter will address the issue from the perspective of inclusive innovation, with discussion on social innovation in some specific context.

Regardless of inclusive or social innovation, these activities can be seen quite clearly in an Asian context. Speaking at the annual meeting of STS (Science and Technology in Society) Forum in Kyoto, an NGO supported by the government of Japan in 2013, Indian Minister of State for Science and Technology Ashwani Kumar

called for "frugal and inclusive" innovation from the scientific community so that the relevance of science and technology would have a direct correlation to better standards of living in developing societies. Elsewhere, in Asia, the two large emerging economies China and India have officially acknowledged the need for "inclusive development." The majority of the rural population in both countries has been unable to access or benefit from the opportunities available from recent unprecedented economic growth. The project "Innovation systems for inclusive development: lessons from rural China and India,"[1] conducted by two research teams, one Chinese and one Indian, probe how innovation capacities can be enabled and sustained for inclusive development. Innovation for inclusive development (IID) demands analysis of exclusion as empirically observed in specific spaces, in rural areas and employment avenues as well as in the research and policy spaces that generate and deliver the knowledge inputs for development. The project explores how the notion of development gets overwhelmingly biased against the rural—the so-called low-tech sectors like agriculture and rural industrial clusters, which provide livelihoods for over 80 % of the rural population.

In a study initiated by IDRC, "Research Councils and Support Organizations in Southeast Asia," one issue of most common concern at the subregional or regional level in ASEAN has been identified as innovation in and for the bottom of the pyramid (BOP). In this direction, IDRC has funded the project Innovation for the Base of Pyramid (IBoP Asia) conducted by Ateneo University of the Philippines. The project aims at development and application of technologies to serve the need of poorest population in SEA. During 2008 and 2009, it funded 25 projects (10,000 to 20,000 USD each) for organizations in six SEA countries (Philippines, Indonesia, Singapore, Cambodia, Thailand, Vietnam). There are six areas that the project covered: water and hygiene, energy, healthcare, agriculture, climate change, ICT and microfinance.

Following this, after the IBoP project finished, IDRC supported a new project: UNIID-SEA. During the 2 years 2012 to 2014, the project Network of National Councils and Universities for innovation for inclusive development in four SEA countries (the Philippines, Indonesia, Vietnam, and Thailand) was undertaken. The project had several aims. First it provided information, capacity building, and an increasing role of National Research Councils in promoting inclusive innovation for poor, women, people in remote areas, etc. Research councils should be encouraged to work on new IID action-oriented policy agendas. At the same time, the project worked with universities, among them Hoa Sen University, Vietnam National University (VNU), and Vietnam Academy of Science and Technology (VAST), to introduce new IID-related training courses. In the framework of the project, there were some initiatives launched. Many capacity building workshops, seminars, and national and regional conferences were organized, where participating organiza-

[1] The project is supported by International Development Research Centre (IDRC) of Canada and involves researchers from India (NISTADS; Centre for Development Studies; Centre for Policy Research; Hyderabad University), and China (Zhejiiang University; Chinese Academy of Sciences; Centre for Chinese Agricultural Policy).

tions from the four countries shared experiences and exchanged perspective on IID. Issues like ways for universities and research councils to teach, do research, manage grants, and respond to development changes have been examined. Training courses on inclusive innovation were another important topic. In addition, the project also provided some granting exercises. One was IID Fellows Grants program. This program funded a person pioneering inclusive innovation activities and brought knowledge and experience into learning and teaching packages. Another was IID Challenge Grants program, a collaboration between UNIID-SEA and its partner research councils NRCP (Philippines), NRCT (Thailand), DRN (Indonesia), and NCSTP (Vietnam). The program awards grants up to 15,730 USD in each country to support action researches that offer innovative solutions to poverty and exclusion issues faced by a partner community. Each of these projects should be completed within 6 months to 1 year. By looking at regional coordination mechanisms for universities and research councils in inclusive development (Ng Boon 2014), the project found that there is a growing but slow recognition of IID and a lack of funding support. Lack of ASEAN collaboration in IID has led to each country pursuing its own respective agendas which has implications for the whole ASEAN strategy.

In selected individual ASEAN countries, the concept of inclusive innovation has been implemented to differing extents. In Indonesia, Research Council put inclusive innovation-related issues into the national development plan and research planning. Following this, they created organizations for achieving MDG such as the Council for land working on landless people, or the Council for water resources development dealing with clean water use. In Malaysia, education for sustainable development was carried out by universities. The most active country seems to be the Philippines where universities took the lead. Ateneo de Manila University established Ateneo innovation center to deploy low-cost technology for water filtering in remote areas and seafood quality control to deal with fish diseases. De La Salle University runs a project to develop micro hydro power station for mountainous communities. Interestingly, the S&T Agency introduced a national innovation strategy called FilipInnovation. Some international cooperation efforts were implemented. One example is lighting bottle technology deployed by Shelter Foundation (US) in remote areas without power, with participation of MIT students. The Philippines and the Asian Development Bank (ADB) have agreed on a new Country Partnership Strategy (CPS) for 2011–2016 that target governance reforms and other measures needed to drive broad-based growth and poverty reduction efforts. The program amounts to a total of USD 3.8 billion for the 6-year period and aims to better ensure that all Filipinos, especially the country's poor, are able to share the benefits of the country's economic growth. The new strategy, which is fully aligned with the Government's Philippines Development Plan (PDP): 2011–2016, focuses on strengthening the investment environment to attract more private funding for infrastructure development and job creation. This new partnership strategy builds on the Philippines' vision of inclusive growth and seeks to make the delivery of social services more equitable and efficient, and to help the Philippines address environmental issues, including climate change. This includes support to urban environmental infrastructure, such as waste management, increased energy effi-

ciency and sustainable management of natural resources, including coastal areas and watersheds. The new strategy places particular emphasis on incorporating cutting-edge knowledge and innovation into ADB-supported projects.

In a similar context to many ASEAN countries, Vietnam has recently embarked in the direction of inclusive innovation. The ideology of the socialist Vietnam has always been centered on equitable development and in almost every aspects of social and economic life, the focus on helping poor and disadvantaged people has been emphasized. Although the poverty rate has been reduced significantly, a part of the population in Vietnam still lives with income lower than USD 2 per day. The government also believes that science, technology, and innovation should be utilized in addressing the inequities in the society and be used in improving the quality of life of the BoP. This is reflected in many science and technology programs and projects addressing the needs of farmers and lower income groups. However, despite the fact that the philosophy and many actions were there, no explicit "inclusive innovation" policies were designed until recently.

Recognizing that the World Bank has several decades of successful experience in providing support to developing countries in the STI field, the government has requested the Bank's assistance in pursuing some projects for its STI reform agenda, including in the area of inclusive innovation. In 2014, the *Vietnam Inclusive Innovation project (VIIP)* was launched with a funding of a USD 55 million loan from the World Bank and some contribution from the government. Grant formats include grant and loan for companies and end users. The project is implemented by the Ministry of Planning and Investment of Vietnam and the World Bank and has the objectives to help strengthen Vietnam's capacity to undertake inclusive innovation for improving the lives of the Bottom of the Economic Pyramid population. This is achieved by adopting, upgrading, developing, and scaling up inclusive technologies. The project focuses on developing high-performance and affordable solutions to address the needs of the BoP population, including through providing support to SMEs to acquire, adopt, create, and use technology and innovation. The project supports tools to encourage and incentivize collaboration between stakeholders, especially among the business and research and universities sectors. In order to pursue the development of high-performance and cost effective solutions, collaboration with appropriate global R&D organizations (such as Global Research Alliance) is designed. This project consists of four components: (1) developing inclusive technologies; (2) upgrading, scaling up, and commercialization of inclusive technologies; (3) capacity building and global knowledge transfer; and (4) project management, and monitoring and evaluation. Areas of support include ICT, Bio, Herbal medicine, Agriculture and Aquaculture, Energy and Environment technologies.

In addition to *VIIP*, Vietnam almost at the same time began a project called *FIRST (Fostering Innovation through Research, Science and Technology)*. This project has a funding of USD 100 million as loan from the World Bank, and the form is all grants. Project components include attracting foreign talent; support of joint R&D consortium; centers of excellence in high-tech. One aim of the project is to link to V-KIST (Vietnam-Korea Institute of S&T) project, a joint effort of Vietnamese and Korean governments, and to Vietnam Education Foundation and

others. The project could infuse support into already ongoing training of Vietnam STEM scientists in top US and other universities in areas like ICT, Bio-Medical, Nano, Engineering, and Mathematics.

As can be seen here, there are two streams of innovation in practice: Innovation for economic growth (typical example is FIRST project, supporting mainly R&D activities) and Innovation to address needs of farmers, poor, and small business (like VIIP).

In addition, another similar effort is being implemented. With support of government of Finland (via Innovation Partnership Program or IPP), MOST is working on promoting innovation in firms and on development and experiment with innovation policies during 2007–2012. Starting in 2013, the second phase of IPP has changed to more focusing on inclusive innovation, working with small communities. These are examples of how inclusive innovation began to take place more explicitly in Vietnamese practice.

Another phenomenon is a shift from inclusive innovation to social innovation. Although inclusive innovation itself is a quite recent concept, there can already be seen movements to advocate for social innovation and social entrepreneurship. Focus on social aspect of innovation is promoted more rigorously by other organizations. In its activities in Vietnam, the British Council began in 2011 to spur activities on the subject of promoting social entrepreneurs and social enterprises. In cooperation with the Central Institute of Economic Management (CIEM), it has completed a number of studies on social enterprises in Vietnam and various workshops on the topic.

According to this group (CIEM et al. 2012), social enterprises means an organization that (1) places social mission at the top priority, (2) uses business activities, fair competition as tools to meet social objectives, and (3) reinvest profit generated from business activities into organizations, communities, and social objectives. This type of definition is somewhat similar to various numbers of definitions on social enterprises given by others (OECD 2007). The social enterprises also have a number of typical characteristics such as structure of social ownership; impact is assessed on both economic and social sides; serving the need of the BoP, and so on. Accordingly, social innovation is a type of innovation that is conducted by social enterprises in achieving their goals, among other business activities. It seems a default that what social enterprises do would have social purposes, including relying on innovation activities which are social innovation. This is not identical with the inclusive innovation content that pursued by the World Bank together with MOST, but still sharing the same goals of supporting poor and lower income groups of people in the society who are marginalized and not having the privilege of enjoying the benefits of economic growth.

Following this thinking, in 2013, there was an attempt by the British Council to coordinate with MOST and Enterprise Development Agency of Ministry of Planning and Investment—who are champion of and running the inclusive innovation project (VIIP) in Vietnam—to co-host a Conference on social innovation. For this purpose, among organizers, a debate was initiated on what is the difference between social and inclusive innovation, what should be the focus for development and others. After several months of discussion, eventually, it was decided not to go ahead with

that joint event. The conference, however, was still organized in 2013, but mainly focusing on social enterprises only and their activities to serve communities. The end recipients of these services are marginalized groups of people, and by introducing innovative business models and technologies, the goals of a development process that inclusive for all is being achieved.

The way this conference was discussed, prepared, and conducted has revealed that different groups advocating for the same idea to help the poor with products of innovation did not come to a common and similar conceptualization and understanding. This shows that the concepts themselves are rather new to Vietnam, and even among international organizations or government agencies there are various views on the issues. As such, the commonalities and differences between inclusive innovation and social innovation still are not very clear-cut, with some blurred areas of meanings and understanding in the Vietnamese context.

Another example of this new emergence of the idea that innovation should be open and inclusive for many people is the coming of the Maker movement to Vietnam. Actually, the idea of having a common place for as many people as possible to try out various innovative ideas and turn them into practical products or solutions is not very new. In the past, Vietnam has organized so-called *Sang-Ki* (or initiative) movement when people from grassroot level come forward with different new ideas or solutions on how to make things better or more efficient. Most of the cases have social purposes. They even organized the implementation of these ideas in a series of practical experiments. However, there were not much of systematic attempts to put these efforts into an organized structure. This changed with recent activities of some international organizations. Arizona State University (ASU) in cooperation with Vietnam NATEC under MOST and other universities around the country have organized a series of workshops to bring awareness to the Maker movement and how it can foster entrepreneurship, create economic value, and drive science, technology, engineering, arts, and mathematics (STEAM) development in Vietnam. These workshops were undertaken in Da Nang (central Vietnam), HoChiMinh City and Can Tho (South) and Hanoi (in the North). Participants from academia, government, companies, and entrepreneurs attended the workshops. Invited speakers were Maker-in-Chief of the White House Office of S&T Policy, Design Thinking Evangelist of ASU, and many representatives of companies, large and small like Intel, National Instrument, Microsoft, etc. Especially, there were many Vietnamese pioneers in running Maker facilities such as FabLab Saigon or students who won the Intel Young Maker Challenge Competition and National Instruments University Design Competition. The objective of these workshops is to facilitate participants through the "Maker Playbook" process to develop a project plan concept to develop and launch a maker space in respective cities. The workshops provide participants a platform to convene and develop a space to foster entrepreneurship and innovation to create value and development for the region and Vietnam. The outcome of the workshops should be a set of design deliverables, concept outline, and workgroup to finalize a project plan to implement. With the setting up of maker lab in various places, it is hoped that the Maker movement will become a widespread phenomenon to promote local and grassroot level innovation.

Moreover, these facilities will be open for all kinds of participants, to serve initiatives from below. By fostering the "bottom up making," the growth of innovation and entrepreneurship will be promoted. Following this initial start for the Maker movement, physical labs will be set up in several urban areas and regional hub such as high-tech parks to spur the process.

The National Environment for Inclusive Innovation in Vietnam

It is safe to say that although inclusive innovation for development is a recent movement in Vietnam, the philosophy of balanced social development and sharing the benefits of development on an equitable basis for all, has been dominant for long time in Vietnamese development history (Norlund and Tran Ngoc Ca 2003). A number of examples have been put forward for the beliefs that as a result of "institutional innovation," a more equitable development result could be achieved and shared. Agriculture of Vietnam was one of those examples. By changing radically the whole system of agricultural regulations and introduction of new reforms, Vietnam has changed from food import in the middle of 1980s to rice and other food stuff exporter by the end of 1990s and was able to increase the food productivity and production significantly. In the area of science, technology, and education, the first activities of the early days after independence were "education for all" campaigns, aiming at more equitable development opportunities. Even under the war, during the 1960s and 1970s, thousands of children from poor and farmer families were sent to study in the former socialist countries (Soviet Union, Eastern European countries, China, and Cuba). Education and healthcare services were almost free, albeit being not very sophisticated. This status lasted until the reforms in the 1980s, when the economy moved to market mechanisms and education and healthcare services began to charge fees.

The philosophy of helping the poor is also seen clearly in many efforts to use science and technology development for poor and disadvantaged people. The program for S&T for development of *rural and mountainous* areas implemented by Ministry of Science and Technology (MOST) is one of them. MOST together with Ministry of Agriculture and Rural Development (MARD), Farmer Association and other provincial organizations are conducting this program of 288 projects in 60 provinces. Total budget for the program is around USD 35 million, of which 39.7 % comes from S&T budget of central government and 60.3 % comes from local governments, companies, and communities. These projects are working in wide-ranging areas such as adoption, transfer of technologies to help with change in crops and breed structure for higher yield and productivity; development of specific products of comparative advantages (citrus fruits, tropical flowers, herbal medicines, mushroom); processing seafood and forestry products; water treatment and clean water supply; rehabilitation of traditional profession and products; application of new technologies like biotech in agriculture; environment protection in rural areas and others (MOST 2012).

After 6 years of implementation, the program has transferred 856 technologies to rural, mountainous, and sea coastal areas, to backward and remote location of ethnic minority communities. These technologies are new to the provinces, contributing to technology innovation of local organizations, small companies, and farming communities. This led to the creation of jobs and a revitalization of old and traditional professions as well as the starting of new professions.

Via this program, personnel from 68 science and technology organizations have visited local communities more than 1250 times each to help with technology diffusion and application. The program also trained 1566 local technical staff, organized training courses and instruction activities for farmers for around 35,136 times per person, 800 managers of science and technology activities in localities who are involved directly in technology transfer process. The program also has mobilized time and financial resources of science and technology organizations, investors in working for the cause of development of farming, ethnic minority, mountainous, and rural communities. The close linkages of multistakeholders like government, academia, enterprises, and communities have been established, as the program worked in cooperation with other extension programs in industry, agriculture, fishery run by other Ministries. Thus, the program did have long-lasting and crucial results for targeted groups of poor and disadvantaged people and can be seen as the most distinct example how science, technology, and innovation activities were implemented for the cause of inclusive development.

Using ICT is also one of the activities for innovation for inclusive development in Vietnam (UNDP 2004). ICT has been implemented for poverty eradication and rural development. As Vietnam has made significant advances in reducing poverty during the 1990s, the general opinion is that the country is on the way to reaching its MDG. There is an increase in inequality within Vietnam with the poorest 20 % of the population accounting for a declining share in national expenditure, while the richest 20 % have seen their share of national expenditure increase. Greater access to information to support the activities of the poor and rural populations will enable them to manage the risk associated with increased integration and also strengthen income making abilities and choices reducing the level of inequality.

In 1998 a pilot model of a Market Information System was established sponsored by Vietnam-Sweden Mountain Rural Development Programme (MRDP) and was developed in Phu Tho province which aimed to diffuse market information to farmers and small traders in a number of pilot areas. This project aimed to confront the problems when insufficient market information is available. The ICT group involved in information dissemination encouraged both the use of ICT tools such as telephones, fax, radio, television and an intranet and the internet to gather information from groups such as extension agencies for distribution down to communes and farmers. Evidence from the project showed that after this project model was implemented farmers saw several benefits: (1) farmers and traders now had access to updated market prices close to their homes. This enabled them to more effectively respond to the market trends; (2) market information enabled farmers to consider what crops, poultry, and cattle would benefit most for them and influenced their investment, and (3) the level of exploitation via wholesalers trying to squeeze farm-

ers through lower prices was reduced. Although ICTs offer many opportunities to communicate rapidly and access information, it is the poorer, low educated distant groups who are left behind. This is the biggest challenge of ICTs for economic development in Viet Nam in general and agricultural rural development in particular.

The Ministry of Agriculture and Rural Development (MARD) has recognized the importance of information for farmers and developed a website and information management system to gather both market information and disseminate important crop maintenance information to farmers and provincial Departments for Agriculture and Rural Development. It linked the information gathered and accessible via website with print material, a medium both more trusted and accessible to the majority of farmers and rural populations.

In another program, the Vietnamese government provided information and communication systems to farmers in rural and remote areas through the establishment of Post and Cultural points in communes, bringing basic knowledge and update information to farmers, especially in remote and mountainous areas. This helped communes to have access to newspapers daily and the telephone network, providing the poor and rural communities with an important information backbone. A number of projects also used this existing information and communication infrastructure in Post Office Cultural centers to provide internet access and information.

ICT could also help to achieve the MDG in respect of gender issues at least in three respects: deliver educational and literacy programs specifically targeted to poor girls and women using appropriate technologies; influence public opinion on gender equality through information/communication programs using a range of ICTs; and provision of new economic opportunities for women (UNDP 2004). Vietnam Women Association cooperated with a number of donors and government agencies in provision the women with new training opportunities and overall education campaigns. Similarly, in providing new business and economic opportunities, ICT have created many innovative means for women to earn their income, improve lives, and change the social status. The examples of ICT use for poverty reduction or for gender development above show that the practice of innovation for inclusive development is rather popular in the country.

Among recent solutions for technology development, Vietnam promotes technology market (or TechMart for short). The model of organizing techmart initiated back in 1994 by the National Agency of S&T Information under MOST together with support of UNIDO. Techmarts aim to provide space for technology and equipment suppliers and recipients to meet, exchange need, and business opportunities. They can negotiate and conclude deals in technology transactions. Consulting support for technology exchange is provided to concerned parties. Techmarts organized seminars, workshop, conference, demonstration of technology to showcase technology and equipment of suppliers for potential buyers and users. Also, post-techmart activities were organized to monitor and provide continued support for contracts and deals signed at the Techmarts, as well as support with financial and investment issues. In these techmarts and technology exchange centers, next to activities of R&D institutes or universities as larger suppliers of innovation solutions, there were reserved sections for "barefoot innovators" who introduced solu-

tions that relied on small scale, affordable technologies and fit for rural and mountainous areas and for poor end users. These innovators tend to be farmers' family-based companies, non-government organizations, associations, or sometime individual farmers themselves. This is increasingly becoming popular among the innovation scene of Vietnam and put the idea of inclusive innovation for development into practice.

Academic and University Organizations and the Inclusive and Social Innovation for Development

In the environment for inclusive innovation given above, it is clear that academic organizations play an important role, as knowledge producers and technology providers. Academic organizations, be they a R&D institute or a university, can be inclusive in their innovation activities either in training or research domain.

Inclusive Access to Higher Education for Disadvantaged People

With a move to market economy, the tradition of having free primary and secondary education or easy access to higher education seems to be affected in the decades of 1990s and 2000s. Families began to pay more different fees and tuition for their children education. More and more universities (especially private ones) charge substantial tuition fee for a Bachelor program and this became unaffordable for many families with low income.

In 2005, the government by Resolution No. 14/2005 has adopted the Higher Education Reform Agenda (HERA) which put the higher education sector in quite a forceful pathway of changes. In addition to changes in structure of the higher education system (such as encouragement of more private sector involvement in providing higher education, setting up new type of universities, a move to internationalize universities, or fostering university research activities), the changes also concern the financial terms for studies, equity, affordability, and accessibility of students.

After a rather long time when tuition fees have been regulated by government at quite low levels (in 2008 only 10 USD per month across all subjects), in 2009 the government put forward proposals to differentiate tuition fees between several fields of study. According to these proposals, tuition would be increased annually step by step to reach around 30 USD per month by 2014. By 2015, the tuitions for university have increased considerably. For instance, the fee for University of Technology under Vietnam National University is around 330 USD per year (10 months), for National Economic University it is 600 USD (www.neu.edu.vn), and for Vietnam National University (University of Economics) it is 40 USD a month (www.ueb.edu.vn). The cooperative programs with foreign universities have even higher fees. Vietnam-Germany University, for example, charge a fee of 3,000 USD annually,

while a private university such as FPT has fee of 11,000 USD per year (www.fpt.edu.vn). Particularly, a joint program of Hanoi University of Science and Technology with an US-based university charge 11,500 USD for a program, and other joint programs of Foreign Trade University with British or Danish Universities cost in a range of 15,000 USD (www.ftu.edu.vn). These are in no way compared to tuition and fees of high standard international universities, but in the context of lower income families in Vietnam, this is beyond the reach for them to afford university studies for their children. There was considerable public opposition to such increases. Certainly, students also pay fees for dormitory accommodation as well as other expenses such as books.

To address the difficulties of university education, the government and a number of universities also provide various schemes for publicly funded scholarship and loan schemes. These include (1) programs offering tuition fee exemptions or rebates, and in some cases also scholarships to support living expenses, for tightly defined equity groups; (2) merit scholarships (universities are expected by the government to devote 15 % of their tuition or contribution as grants by companies); (3) fee income to the support of merit scholarships; and (4) student loans from the Social Policy Bank. Though, the levels of assistance available under these programs are modest. All scholarships awarded include tuition waivers, while only some of them include subsidies for books and around 1.4 million students have accessed the loans in 2009 (SMEC 2010).

There are questions as to the effectiveness of these policies to sufficiently address the needs of poor students to gain access to universities. Because the scholarship funds come from university budgets, mostly generated by fees, the universities have little or no incentive to award scholarships. In addition, scholarships are awarded on merit basis, so the proportion of students from upper and middle income families who receive scholarships is much higher than those from the low-income families, because the former have better learning conditions and better performance. As such, this limits the capacity to assist students from socially disadvantaged backgrounds to cover the costs of higher education.

Overall, the financial conditions seem to be the most important factor affecting the access of disadvantaged groups of potential student to study at universities. These groups could include people who are disadvantaged in relation to access to higher education compared to the majority community. Thus the disadvantaged include women, in relation to access to some subjects like engineering, persons from poor backgrounds and remote areas where educational opportunities are fewer, and ethnic minorities, who tend to be poor and disadvantaged due to the remoteness of their homes, and people with disabilities.

First, about women students in some subject areas. Between 1999–2000 and 2006–2007 the number of students in higher education in Vietnam rose from 720,000 to 1,173,000, and in that time the proportion of women students rose from 42 to 55 %. Thus, in higher education, women students are now a majority in Vietnam. But data from the Vietnam Household Living Standards Survey (VHLSS 2006) indicates gender differences in students' subjects of study and shows that males dominate sciences and technology subjects, with, in 2006, males representing

80–90 % of students in Engineering and Technology; 57 % in Physical Sciences; 46 % in Life Sciences; 43 % in Mathematics and Statistics; and 44 % in Business and Administration. The proportion of women in the intake to Hanoi University of Technology averaged just 12 % over the years 2002–2003 to 2006–2007. Within the Vietnamese higher education system, the proportion of lecturers who are women rose from 34 % in 1999–2000 to 43 % in 2007–2008. In universities specializing in science and technology this proportion is much lower.[2] There are attempts by the Women Association and other organizations to promote more female students to study science and engineering, but so far there are not many explicit policy measures available.

Second, a group of disadvantaged students is ethnic minorities who make up about 13 % of the population. The proportion of students who come from ethnic minorities is increasing but still remains small; it rose from 0.2 % in 1999–2000 to 0.5 % in 2006–2007. The proportion of lecturers who come from ethnic minorities is ranging between 1 % and 0.5 % over the period from 1999–2000 to 2007–2008. This poses another issue of inclusive development for university system.

With regard to low income students, around 21 % of the university student population comes from the two lowest income quintiles; about 65 % from the two highest quintiles; and about 14 % from the middle quintile (VHLSS 2004). It looks like the more well-off families the students come from, the better chance they have to succeed. And those who have lower family income tend to be left behind. These trends look rather similar to the situation in other countries, despite the situation is being improved gradually. To encourage ethnic minority people to go more to higher education, in the admission system, they always get some extra bonus points in entry exams. Preferential treatment also were applied for those students coming from families having contributed to the cause of country building, either during war time (war invalid or martyr) or peaceful development.

The issues of more inclusive access to university appears even stronger when it comes to higher-standard universities which are highly selective in their intakes, focusing mainly on science and technology, business and management studies. These universities aim at a high proportion of postgraduate students, and to have high quality institutions, but at the same time charge higher fees than other public universities. In this context, to expect these new higher-standard universities to be inclusive is more difficult. However, there are policy measures deemed to be effective for this goal and are already being implemented, such as assisting opportunities for enrolment by providing access to English language, to assist those who are qualified academically, or to reserve places for "nominated students" from ethnic minorities (in addition to crediting them extra bonus admission points). In fact, there were set up some special universities located in mountainous areas aiming at recruitment of students from ethnic minorities groups such as Tay Bac University (located in North West highland) or Tay Nguyen University (in Central highland). The univer-

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[2] Data quoted in this part is extracted from the Technical Paper prepared for the HESDP by Nguyen Thị Mai Ha, '*Social Assessments Paper: Proposals on Gender and Ethnic Minority*", HESDP, unpublished, 2009, as cited in SMEC (2010).

sities (with some government granting schemes) could provide support to student covering the full cost of fees, or low-cost accommodation, with priority for students from disadvantaged groups in the allocation of places in on-campus dormitories. Still, other practices popular in many international universities, such as the creation of endowment funds to finance scholarships for students or providing enhanced in-university student services that advise students on sources of support for their studies, are not well developed yet in the Vietnamese university system.

The analysis given above shows that the first steps toward a more inclusive system for disadvantaged groups of students in accessing higher education are being developed but still in its initial phase. This could help offset some of the difficulties posed by the recent move to a market economy.

Apart from education for inclusive development, scientific research and technology development are another component for inclusive development by the academic university system. Contribution of science, technology, and innovation for the cause of inclusive development can be seen in more details in some specific selected sectors such as agriculture and healthcare.

Agriculture

According to estimates by the Ministry of Agriculture and Rural Development (MARD), during 1986–2005, the average production value of agriculture of Vietnam increased 5.5 % per year. It is thanks to the agriculture production that Vietnam's economy can maintain its stability despite the disruption in growth and economic crisis in many other economies. Agriculture contributes around 20 % of total GDP and 1/5 of total export. Before the renovation period, the percentage of the population living under the poverty line was 60 %, down in 2003 to 29 %, 19 % in 2006, 14 % in 2008 and now less than 10 %. In 1985, export of agricultural products were USD 400 million, in 2010 it reached USD 18 billion. Most of the agricultural production has increased in productivity and yields due to application of new crops and productive technologies. By applying new technologies in cropping and post-harvesting, production of rice, for instance, increased steadily: 40 million tons in 2010, up to 41.8 million tons in 2011, and 42.5 million tons in 2012. The production of seafood also reached a record high of 4.8 million tons.

In some large centers of economic development, high technologies were applied more in agricultural production. In HoChiMinh City, since 2000, the growth rate of agriculture has always been high, with 3.7 % in 2001, 4.7 % in 2003, and now reaching 9.1 %. HCMC began to put a high-tech focus into agriculture production by building an agriculture high-tech park. The mission of this park is to serve the needs of agriculture production in the city by using various types of technological experiment and results. A number of agriculture technologies like hydroponics or floating board are being used for new crops, or production of flower and plants based on tissue technologies. The same can be said for more sophisticated technologies such as genomics or enzyme. Other examples of using technologies for agriculture can be seen clearly in information and

communication technologies. In Hanoi, technologies such as ICT are also deployed actively in and outside agriculture parks to increase yield and productivity of different crops of flowers, fruits, and vegetables. Apart from this, other high-tech areas like biotech and biosciences are also applied to the need of production of agriculture like artificial insemination, preservation technology, and embryo transfer. Crops such as rice and maze especially benefited from tissue culture and cell generation. According to some estimates (MOST 2003), the contribution of biotechnology to agriculture has facilitated the self-sufficiency of 25 % of demand for F1 hybrid rice, bringing benefits of almost USD 50 million annually. Vietnamese scientists contributed almost 70 % of all rice varieties grown in the country. Other estimates by Ministry of Agriculture and Rural Development concluded that one-third of the rice growth production benefited from the introduction of new crop varieties by domestic R&D organizations such as the Institute of Agriculture Genetics, the Institute of Agriculture for South Vietnam (all under Vietnam Agriculture Academy of Sciences), the Cuu Long Rice Research Institute (CLRRI), or other institutes under universities like Can Tho University, An Giang University in the Mekong Delta, and the Hanoi University of Agriculture.

In forestry, more than 50 million trees were planted as products of tissue culture. Genetic conservation activities run by 12 offices and 70 agencies under eight related ministries brought many benefits for various animals, microorganisms, and vegetation species. Other areas such as aquaculture also began to enjoy result of biotechnology in dealing with prawn diseases.

In September 2013, at the National Conference to evaluate the science and technology activities for agriculture-rural area-farmers, the contribution of science and technology to agriculture production was highly praised. It is confirmed that due to R&D activities, there were 164 new species of plants that have been created and put into production, of which 97 in foodstuff group, 8 are ornamental flowers, 19 fruits, and 40 trees of industrial types. Many of them have higher productivity, and new features of climate resistance as well as pest resistance such as new rice, maize, peanuts, potatoes, rubbers, and especially new plants for furniture.

Da Lat is one case where agriculture academic institutions contributed to the development of flower and vegetable production.

Box 11.1 Agro-forestry Faculty of Da Lat University

For sometime, despite being a multidisciplinary university, Da Lat University (DLU) did not have agro-forestry faculty but only biology. In 2003, an Agro-Forestry Faculty was set up with two main specializations: agro-forestry economics and agronomy, and more recently postharvest technology. The faculty has 5 ha of land on campus and 200 ha in other district outside the city for experiment study. The faculty has around 80 students annually, half of it from Lam Dong province and the rest from South and Central part of Vietnam. The faculty has only 16 staff, with most having master's degrees from overseas

Box 11.1 (continued)

training, and has invited many visiting lecturers from Pasteur Institute, Institute for agriculture plants, and Tropical biology institute. The faculty also sent its students to be interns in these organizations. Currently it has 3 laboratories, supported by MOET, working on subjects like preservation of local and adapted gens; clean vegetable production processes; postharvest storage technology; insect research. The faculty has contractual works for VAST, S&T departments of some provinces. Especially, the faculty worked for many local organizations to support their activities. For instance, it provided free technical assistance, lecturing and consulting on extension for provincial agriculture center; provided varieties of production units with free technical support. The faculty also supported Da Lat technical college in writing new training material on vegetables and flower planting. With farmers and firms, the faculty has quite close collaboration: it does sample tests, technical consultancy and job creation, tissues culture incubation before transfer to farmers, and other extension projects. In exchange the faculty got some financial resources from contracts, apart from free services.

Source: Nguyen Phuong Mai (2010)

Thank to favorable conditions of climate and soils, Da Lat (Lam Dong province) is well known for its center for subtropical vegetable and flower production, mainly supplying to HoChiMinh City and other large urban areas. Da Lat city has 7123 ha for vegetable planting, 441 ha for fruits, 25 ha for rice, and nearly 3500 ha for flowers, of which 1500 with glass housing. Box 1 shows that Da Lat University has been involved in the process of helping farmers to upgrade their production of flowers and vegetable.

In one of the studies on the status of innovation functions in agriculture, three specific products of Vietnamese agriculture production (tea, fruit and vegetables, and shrimp) were investigated (NISTPASS 2011). These innovation functions are examined for each of the product sectors along the value chain of the production and business, ranging from R&D for seeds and species to planting, harvesting, packaging, and sales. Overall findings revealed that weak capability for R&D, testing, incubating, and other technical services seriously hampered innovation activities in agro-based institutions. The overall policy environment is still not yet geared to be conducive for the needs of innovation in general, even less so for inclusive and social innovation. This is in particular observed in the financial conditions and incentive system. Linkages and interactions between actors within this incentive system and among incentive providers and innovators are notably weak, with credibility and trust issues on the part of financial institutions among the most critical for innovation. Innovators, for inclusive and social purposes, tend to be small scale, family or community based with limited resources and as such, they do need government support.

Healthcare

In the healthcare sector, although the contribution of science and technology to development is less visible than in agriculture, many achievements are notable. With around 250,000 people working in the healthcare sector with 47,000 of higher education degrees, medical and pharmacy universities do scientific research and technological experiments in their hospitals. One of the first urgent needs is to address emerging new types of diseases in a context of tropical climate. With research carried out in many centers and hospitals, the sector now can detect early new type of diseases such as infection of foot and mouth in both human and cattle, avian influenza of H5N1, H1N1 types, and come up with various solutions in terms of new vaccines or treatment system. Other new technology solutions are adopted for complicated operations to replace or transplant organs such as liver, marrow, heart, and kidney as well as genetic diagnosis. More recently, research into stem cells has brought new results in blood cell diseases, neuron, and bone system. Similar research-based applications were endoscopic operations technology to deal with problems in kidney, diaphragmatic hernia, and ureter connect. This has provided many patients with affordable treatment in the country instead of having to go overseas for costly operations.

Similarly to agriculture, biotechnology also brought positive outcomes to the healthcare sector such as wide application of artificial insemination technology, genetic technology, DNA and protein chip in research institutions and healthcare centers. New diagnostic technologies have been applied to solve the problems of heredity in newborn babies or dengue and poultry fever. Results of research can also be seen strongly in the case of vaccine production and application. Thank to this, the country can be self-sufficient in 9 out of 10 vaccines in its vaccination programs, in fighting many diseases of tropical conditions like polio, B-hepatitis, etc. In producing B-hepatitis vaccine alone, research has brought benefit of around USD 7 millions and this can even be exported to other countries in Asia. Apart from this, other technologies like genetic engineering and transgenics are contributing to the needs of defense and security.

Still, an example of an area related to both agriculture and healthcare, traditional medicine, points to the fact that there is lack of necessary organized innovation structure conducive to addressing the needs of the under-middle-class population in having affordable treatment and drugs (Tran Ngoc Ca 2012). In spite of many efforts by government in promoting traditional medicines to provide more affordable, more accessible, and inclusive healthcare relying on herbal drugs, etc., this subsector still suffers from disorganized actions and under-resourced programs. So far, the contribution of science and technology activities in the healthcare sector seems to be linked more to modern medicines.

The actions on inclusive innovation for the purposes of development can be seen more clearly through the experiences of specific universities.

Inclusive and Social Innovation for Development in Selected Universities

Hanoi University of Pharmacy: Medicinal Innovation for Red Dzao Ethnic Minority Community

Hanoi University of Pharmacy (HUP), formerly known as the Indochina Medicine School, was established by decree by the French government on 8 January 1902. The school was responsible for training medical doctors, pharmacists and doing some research in tropical diseases. The training of pharmacists started in 1926.

The University has 18 departments and centers in areas such as organic and inorganic physical chemistry, analytical chemistry, biochemistry, pharmaceutical chemistry, pharmacognosy, pharmaceutics, traditional pharmacies, industrial pharmacies, clinical pharmacies, pharmacology, microbiology, and botany. The HUP also has number of laboratories, including that working on Good Manufacturing Practice (GMP), pharmacokinetics, quality assurance, and a botanical garden.

During 1961–2013, more than 15,000 pharmacists were trained in HUP. Currently there are 5066 students of all types studying at HUP: 4261 undergraduates and 805 graduates (2013–2014). In research activities, HUP conducts 30 university-level projects, 4 ministry-level projects, 3 projects for Hanoi Department of Science and Technology and projects funded by National Foundation for S&T Development. Research focus areas of HUP include:

– Medicinal plants and traditional pharmacy: research on traditional remedies, medicinal plants conservation and how to prepare and process traditional medicines
– Phytochemistry: isolation of natural compounds, structure elucidation, semi-synthesis and studying on biological activity and pharmacology
– Drug quality control
– Pharmaceutical formulation: study on the stability and pharmacokinetics of products in order to improve bioavailability to ensure the therapeutic effects
– Pharmacology and pharmacokinetics
– Organic synthesis (immune-stimulants, anti-malarias, contraceptives)
– Mathematical design of experiments (optimization) applied in pharmaceutical sciences
– Community pharmacy
– Pharmaceutical administration and epidemiology

Due to the need for new drugs that can be used for treatment of patients at affordable costs, the university set up its first commercial company called Duoc Khoa (DK) Pharma Co. Ltd. The company was spun-out from the university in 2001 and has set up its mission as turning traditional knowledge in medicines into technology

and commercial products to serve the need for healthcare. The company was created by Dr. Tran Van On, Dean of Department for Traditional Medicinal Plant of HUP, and a group of other scientists.[3] Currently, the company has 123 staff, of which 10 having Ph.D. and master's degrees in Pharmacy and 24 with bachelor's degrees. In cooperation with a network of researchers within and outside HUP, the company aims at providing the affordable drug products based on traditional plant, using advanced extraction technologies. The company has a R&D division, a project management division, a factory for traditional pharmacy, and a production unit for eye-care products. It has opened a drug store as well as a farm working on Good Agriculture Practice (GAP).

DK Pharma works in some areas such as R&D of herbal medicines, tea products, extracted by-products; provision of consulting services for communities and farmers in planting and harvesting traditional medicinal plants. Key products of DK Pharma include 40 various types of medicines, ranging from eye-care, plant-based antibiotics to products to increase immunology capacity, treating rheumatism, liver infection, diabetes, vitamins, and other functional foods.

One of the activities of the HUP and DK Pharma is linked closely to Red Dzao ethnic minority people and their traditional recipe of bathing medicinal herbs (Tran Van On 2012). This bathing medicine originated from traditional use of herbs in Red Dzao minority, consisting of many herbs and plant species, around 100 different types, of which 10 are the most important. These are collected from the wild and can be used for treating rheumatism, influenza, and many infections on skins. They can also be used as bathing plants for enhancing female health after giving birth or recovery from illness, with many antifatigue ingredients.

Having this traditional knowledge, the local people however did not reap the benefits. Their herbal medicines are commercialized by others via running different hotels with bathing facilities for tourists, buying ingredients cheaply and selling in shops, even faked products, to earn huge benefit. As a result, the traditional culture and knowledge of communities are deteriorating. Resources of local material for medicines are exhausted. Learning about these problems, Hanoi University of Pharmacy has done some scientific studies on the herb and its effects. It confirmed the treatments advantages of the medicines. After some discussion with local ethnic communities, HUP decided to team up with them and initiate support project in the overall development of herbal medicines, and its commercialization for the benefit of the communities. Eventually it was decided to set up a community-based share holding company responsible for helping communities to earn economic, social, and cultural value from developing their traditional herbal medicines.

Shareholders of the company also include some staff from local government that are supportive to the project and contributing to its success, as well as scientist from universities who take care of the technology aspect of the company. The company attracted all members of Red Dzao ethnic minority to be involved. There are 40 shareholders, 72.5 % of which are ethnic people from the community and the rest coming from outside. The managing board consists of 7 members, 4 from the com-

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[3] Dr. On himself is from ethnic minority group, graduated from the university.

munity and 3 from outside. Not all share holder members are directly involved in the company business, certainly, but they are encouraged to supply goods or services to the company, on a contractual sourcing basis with preferential prices.

At the start of the project, it got some financial support from Rockefeller Foundation for buying construction material and some initial equipment. This finance is turned to anonymous share holder which is about 1.3 of total investment. Profit received on this contribution goes to the fund for community development and used for education, healthcare purposes. By this, the interests of all community members who are not able to do business are taken care of.

The company provides two kinds of business: bathing services with medicinal herbs in village and sale of postnatal spa liquid for women from cities. The products Dzao Spa were created with the help of scientists from HUP, including scientific testing, production, design of brand name and registration for quality control and even IP for trade mark.

When it comes to market, HUP also helped with sales via a company. In conducting the project and running the company, many staff from community was trained by HUP in pharmacy of traditional medicines, skills for planting and collecting herbal plants, as well as other business skills like marketing, advertisement, quality control, production, and financial bookkeeping. Eventually, the whole production and bottling process was transferred from HUP staff to local people of the community. To make this relationship more sustainable, researchers from HUP work together with the company, other companies and consulting organizations and the community as a whole to develop new products to expand market. At the upstream end, HUP also helped the community with the incubating process for several types of plants.

As we can see from this case, by working directly with the ethnic minority community in an innovative way, taking care of the interest of the community and placing them into the whole value chain of herbal products, HUP contributed to the benefit of very disadvantaged communities in mountainous areas. All benefits, be it economic, social, or cultural, of the community are promoted.

Hanoi Architecture University (HAU): Innovative Architecture in Community Housing for Ethnic Minority People

Hanoi Architecture University (HAU) was established in 1969. It includes 26 organizations, of which 11 educational units, 7 managing units, 5 research organizations, and 3 for production services and technology transfer. The university has more than 900 staff, among them 418 lecturers, 77 Ph.D., and 284 Masters. It has 11,000 students, including 65 doctor and 700 master students. HAU has mission to train students in architecture, planification, construction and building environment, and urban planning. For the last 40 years, HAU has trained around 30,000 architects, 100 doctors. The university is engaged in numerous R&D projects and has many cooperations with 70 universities around the world.

Always trying to be closer to the needs of society, Hanoi Architecture University has conducted many architecture and construction projects around the country, among them there are several design projects of community houses suitable for mountainous ethnic minority people (Hoang Thuc Hao and Nguyen Duy Thanh 2012).

The first such a project is *Suoi Re community house*, in Hoa Binh province, west of Hanoi, where large communities of Muong ethnic minority people live. Experiencing problems of a gap in living standard between city and rural areas, especially in mountainous one, the community linkages and societal bones of ethnic minority people are weakened; in many places it faced the possibility of a collapse. There were little community spaces available to ethnic people that includes kindergarten, library, or information center. If there were, these are in dilapidated forms and lacked traditional features. With this in mind, a HAU group of young architects design new multipurpose community house specifically for ethnic people using new, architecturally innovative, solutions. The house should be able to withstand typhoon, flood and having good Feng-Shui. The design of the house follows innovation and advanced architectural principles, having many layers. The front layer is a court for outdoor activities, the back layer is used as internal community joint place plus library, kindergarten, and facilities for village meetings. Using environmental friendly technologies, the house's basement relies on geothermal heating coming from the ground, saving heat for winter and creating coldness for summer, and saving the consumption of electricity. The material used for the house comes from local sources, like stone, earth, bamboo, and various types of leaves. Its combination with solar panel technology, collectors of wind, LED lighting system, and clean sewage system, contributes to a holistic system of experimental environment technologies.

People from the local community built the house under guidance of architects, and use the house for meetings, gathering kids and adults and even for some small business activities. The shape of the house is also a combination of Kinh (majority people in Vietnam) housing and Muong ethnic housing features. As such, the house is a combination of technology, culture, and societal dimensions for an inclusive purpose, undertaken by a university.

A second design project is *community house in Ta Phin* commune, near Sapa, a tourist center northwest of Vietnam. A similar philosophy and technological innovative solutions have been considered by the HAU group. This community house aims at protection of traditional ethnic culture of Red Dzao people, providing a place for handicraft production, herbal medicines, and ecotourism. In this house, training is given to local people on sustainable agriculture production, and responsible tourism. The unique feature of this house is a garden of herbal medicinal plants to preserve species, at the same time having a small library, an information center, and demonstration space. These activities received strong support from local government, communities, and other organizations. The same as previous case, this community house reflects the feature of Red Dzao ethnic by imitating the shape of their traditional scarf and mountainous landscape.

Construction material for the house comes from local sources, including stone, brick, bamboo, and some recycled wood. This was built in combination with advanced and innovative technologies of solar panel, energy saving heaters, rain water filter treatment, and clean sewage. After being put into use, the house receives high praise from users of the ethnic people community and local government.

These two cases show the activities of HAU in conducting actual projects for the cause of inclusive innovation, especially for mountainous ethnic minority people.

Hoa Sen (Lotus) University (HSU): Creating Curriculum for Inclusive Innovation

Hoa Sen University is located in the center of dynamic HoChiMinh city, the economic hub of Vietnam. Hoa Sen University began as the Hoa Sen School of Informatics and Management in 1991. The school was created under the auspices of the Ho Chi Minh City administration. The Union of Lotus in France was created at the same time to support the school. The school was fully independent financially. In the school-year 2004–2005, the project of evolving from Hoa Sen Semi-public College to Hoa Sen University was implemented as a private institution. In 2005–2006, the University opened the bachelor degree program in business administration in cooperation with UBI (Belgium). In 2006, over 2000 new students were admitted to the 3-year bachelor degree program and technician program. A total of 28 training courses offered internationally recognized qualifications. In 2006, the Prime Minister signed a decree giving Hoa Sen College full university status marking the beginning of a new chapter in the life of the institution. Hoa Sen was launched as a fully operational private tertiary education provider. In October 2008 Hoa Sen University introduced the first postgraduate program in collaboration with the Institute for Financial Science and Insurance—ISFA (France). Four departments were created offering programs in vocational technician training, junior college, bachelor of arts/science, and postgraduate degrees. These are: Economics and Commerce, Science and Technology, Polytechnic and Linguistics and Culture. The school tested what was then a new model of training in technician and senior technician training programs. This approach involved a combination of on-the-job training and classroom theory. This was the institutions' first steps towards attaining international standards of training. As such, training of intellectually proficient young adults who can enhance the country's integration into the wider world is the mission of Hoa Sen University. This private university is known for its practicality in the teaching programs and student employability.

There is rising interest by faculty in recognizing the importance of creating values and social responsibility among students, reorganizing learning activities to better serve the purpose of community engagement and development, and a better understanding of the important role of civil society. To promote the idea of supporting

social benefits in their respective area, the university participated in the above mentioned UNIID-SEA project from 2012. In the project, the university decided to make Innovation for Inclusive Development (IID) a subject in its general education. The project has the following objectives: to develop course ware for an IID-related class including teaching and learning materials, and to translate documents and potential case studies material on IID. The university assigned lecturers from general education program to participate in the project. The project aims to develop two IID-related undergraduate modules: theoretical and service learning-based. The first module has been offered twice since March 2013 with 50 students registered. The second module was organized in March 2014 with two sessions: in one session students are to develop smartphone application and marketing campaign for disable people; in the second, student are to develop clean water solution in remote poor area of Mekong river delta (Nguyen Luu Bao Doan 2014).

In conducting this project, HSU learned a number of lessons. IID-related content can be taught to students from different disciplines. For a university to champion IID efforts, the university leadership is very important. In addition, cooperation and collaboration with non-government organizations (NGO) becomes crucial to learning experiences of the student.

As a result of this initial project, the organized classes have been welcomed and put in the existing curriculum of the general education program. The number of interested faculties has increased, allowing for more inclusive development and IID-related courses to be considered and developed in the future. At the same time, the courses should preferably be disseminated widely and should contribute to the existing classes at HSU and to other IID-oriented activities. One example of a project being considered at HSU is to translate, localize, and implement a course developed by University of Malaya targeting children with autism. This pioneer effort by HSU in developing training material in IID, however, is not yet seen much in other Vietnamese universities.

A second activity that HSU is doing is innovative accessible map application for people with disabilities (IMAPP) in HoChiMinh City (Nguyen Luu Bao Doan et al. 2014). People with disabilities (PWD) in HoChiMinh City face discriminatory attitudes in their life and work, because they are deemed incapable, unhealthy, and pitiable. As a result, they tend to be neglected and have limited access to social services and facilities. Limited mobility due to inaccessible built environment is a regular reality. The purpose of the IMAPP project is to create a barrier-free society for PWDs. The project team involved community in number of activities like need analysis and application development, then testing innovative solutions. By working together, people from the community are collaborators, contributors, owners, and beneficiaries at the same time. Technology innovation in the project include development of smart-phone and web-based applications marking accessibility information of public places and amenities in HoChiMinh City for PWD. These applications will be updated regularly for use by all PWD, Vietnamese and foreign, living and working in HCM City.

The practice at HSU provides a new tendency in Vietnamese universities that IID issues could be implemented at two levels: teaching level that deals with preparation of new training course material; and then the practical level where universities' staff and students involve directly in various projects of inclusive innovation.

Conclusion

The practice in Vietnam and elsewhere in Southeast Asia shows that an explicit concept of inclusive innovation only recently has received more attention by practitioners, academia, and policy makers. But an implicit idea of harmonized and inclusive innovation for development has for long been in place in countries like Vietnam. Despite the fact that the inclusive innovation concept itself could still be debated further on its essence, or has different names and specific focuses, in general it calls for innovation activities that are inclusive (created by all) and for inclusive development (all can be beneficiaries).

The academic and university system in Vietnam, along the line of socialist development, has been on the path to pursue this trend. But they face many problems, where education access for all, agriculture and healthcare innovation systems are examples.

In a more specific focus on inclusive innovation, the practice reveals there is always a philosophy of inclusiveness in the development efforts of Vietnam. However, a more difficult matter is the implementation of this philosophy and policies. In reality, implicit policies have pursued this inclusive development philosophy for long, including some science and technology and innovation programs. Recent new developments of social enterprises and social entrepreneurship also support this philosophy trend. Still, it is unusual that inclusive innovation practices occur in the university sector, which is dominated and overburdened with a heavy teaching load. Some government efforts to promote inclusiveness of development via its innovative policy experiments did not yet bring the expected outcome.

Specific cases in some universities in Vietnam have began pursuing inclusive innovation activities, either at the level of curriculum production or running actual projects. All in all, these are only beginning and need more support from government in terms of appropriate policies and strategic orientations in general and STI in particular. Among changes of policy for inclusiveness, one may ask for changes of funding patterns for R&D, and for new way of STI policy making. Changing the role of government agencies in formulating policies and implementing funding towards more IID is a new trend in South East Asian countries. Similarly, new mechanisms and interaction structures are needed. Moreover, to reflect on the inclusiveness feature, all stakeholders need to be involved in Public-Private-Community Partnership for inclusive development. One notion to be emphasized is the shifting from "normal" OECD-type innovation to inclusive "developing countries" type of innovation.

References

Bhatti, Y. (2012, March). About Frugal Innovation Research. *Frugal Innovation Portal*. Said Business School, University of Oxford.

CIEM, British Council & CSIP. (2012). *Social enterprise in Vietnam. Concept, context and policies.* Hanoi.

Chandra, K. K. (2014, December). Barefoots innovators. *Sunday Times Spectrum*.

Foster, C., & Heek, R. (2013). Conceptualising inclusive innovation: Modifying system of innovation framework to understand diffusion of new technology to low incomes consumers. In *6th Annual Conference of the Academy (AIE 2013) of Innovation and Entrepreneurship for Inclusive and Sustainable Development. Conference Proceeding*. TMD, Oxford University.

Hoang Thuc Hao, & Nguyen Duy Thanh. (2012). *Suoi Re and Ta Phin community houses.* Paper presented at the Workshop 'Inclusive Innovation for Inclusive Development'. UNIID-SEA Project, NCSTP, Hanoi.

IDRC. *India-China Collaborative Project*. The Innovation Policy and Science theme of IDRC, Canada. Retrieved from http://www.siid.org.in/.

Mashelkar, R. A. (2011). *Inclusive innovation: Getting more from less for more*. Pune, India: National Chemical Laboratory.

Ministry of Science and Technology (MOST) (2003). *Review of the biotechnology development in Vietnam*. Conference Report. National Conference on Biotechnology. Hanoi.

Ministry of Science and Technology (MOST). (2012). *Report on program for science and technology development for rural and mountainous areas*. Hanoi: Ministry of Science and Technology (MOST).

Murray, R., Caulier-Grice, J., & Mulgan, G. (2010). *The open book of social innovation*. London: The Young Foundation and Nesta.

Ng Boon Kwee. (2014). *Regional coordination mechanisms for universities and councils in inclusive development: The case of Southeast Asian innovation systems*. Paper presented at 2014 SEA Conference on Innovation for Inclusive Development, Jakarta.

Nguyen Luu Bao Doan. (2014). *IID as a general education subject at Hoa Sen University*. Paper presented at 2014 SEA Conference on Innovation for Inclusive Development, Jakarta.

Nguyen Luu Bao Doan, Nguyen Tung, Phan Rat, & Luong Lan. (2014). *Innovative accessible map applications for people with disabilities in HoChiMinh City, Vietnam.* Paper presented at 2014 SEA Conference on Innovation for Inclusive Development, Jakarta.

Nguyen Phuong Mai (2010). *Report on Da Lat agriculture system*. Project on agriculture innovation system in Vietnam. NISTPASS. Hanoi.

NISTPASS. (2011). *Toward an evolving innovation system in agriculture. Case of three products: Vegetable/fruits, tea, and shrimp in Vietnam* (Co-edited). Hanoi: Science and Technics Publishing House.

Norlund, I., & Tran Ngoc Ca. (2003). *Dealing with the donors. The politics of Vietnam's comprehensive poverty reduction and growth strategy (CPRGS).* University of Helsinki.

OECD. (2007). *The social enterprises sector: A conceptual framework*.

Osburg, T., & Schmidpeter, R. (2013). *Social innovation. Solution for a sustainable future.* CSR, Sustainability, Ethics and Governance Series. Springer.

Sanginga, P., Best, R., Chitsike, C., Delve, R., Kaaria, L., & Kirkby, R. (2004). Enabling rural innovation in Africa: An approach for integrating farmer participatory research and market orientation for building the assets of rural poor. *Uganda Journal of Agricultural Sciences, 2004*(9), 942–995.

SMEC Pty Ltd. (2010, August). *Viet Nam: Preparing the Higher Education Sector Development Project (HESDP).* Project Number: 4207901. Technical assistance consultant report for ADB.

Smith, A. (2012, May 5). Supporting grassroots innovation: Facts and figures. *Sci-Dev.Net*.

Stilgoe, J., Owen, R., & Macnaghten, P. (2013) Developing a framework for responsible innovation. *Research Policy, 42*(9), 1568–1580.

Tran Ngoc Ca. (2012). *Policy mechanism to enhance multi-linkages of government, academia, firms and farmers in development and use of Vietnamese traditional medicinal plants*. Report of research project.NCSTP.

Tran Van On. (2012). *Innovation for inclusive development in practice: Research on medicinal plant for ethnic mountainous people in Ta Phin, Sa Pa, Lao Cai*. Paper presented at the Workshop 'Inclusive Innovation for Inclusive Development'. UNIID-SEA project, NCSTP, Hanoi.

UNDP. (2004). *ICT for achieving Millennium Development Goal*. Hanoi: UNDP.

Vietnam Household Living Standards Survey 2004. General Statistics Office. Ministry of Planning and Investment. 2004.

Vietnam Household Living Standards Survey 2006, 5th round. General Statistics Office of Vietnam. 2006.

Voeten, J., de Haan, J., de Groot, G., & Roome, N. (2015, April). Understanding responsible innovation in small producers' clusters in Vietnam through actor-network theory. *European Journal of Development Research, 27*, 289–307. doi:10.1057/ejdr.2014.35.

Chapter 12
Universities as Actors of Inclusive Development in Russia

Leonid Gokhberg, Valentina Poliakova, Stanislav Zaichenko, and Anton Suslov

Abstract Social inclusion and inclusive innovation practices are being implemented in university strategies and routines in various ways considering historical, cultural, socio-economic and other factors. This chapter deals with the current state of the universities' inclusive function in Russia, its origins and prospects. It represents the inclusive activity as an outcome of the national and local top-down policies combined with universities' bottom-up initiatives. To clarify the path dependency it also describes respective particularities of the Russian higher education system vis-à-vis internationally recognised concepts and models. Finally, a study of particular cases provides an evidence for a preliminary classification of university's practices and tools for social inclusion and inclusive innovation. In addition to practical cases the chapter provides relevant statistical data and structured legislation review.

Keywords Russia • University • Third mission • Innovation • Inclusive innovation • Inclusive policy • Social inclusion

Introduction

National innovation policies have been challenged by socio-economic processes becoming more sophisticated in both developed and developing economies. It has become obvious that the initial orientations of innovation policies towards economic growth objectives are no longer sufficient without a broader vision of its social dimension. Globalisation, reindustrialisation, innovation, technologisation and allied socio-economic processes lead to new types of social disadvantages (for example, digital exclusion) and marginalise certain groups of the population in addition to those 'traditionally' considered categories such as the poor, mentally and physically handicapped, aged invalids, single parents, marginal and asocial

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persons and other vulnerable groups. This increases social tensions and threatens social integration and sustainable development in the long-term perspective (DESA 2009). Social inclusion has become one of major focal issues of social and economic development. Therefore these processes have entailed new theoretical studies and policy research combining innovation and social policy approaches, as well as reconsidering the roles of particular actors of national innovation system (NIS).

Social inclusion and social exclusion are not antonyms. The latter means social problems while the first one refers to social benefits (Bauböck 2004). Experts define social inclusion as a relative, dynamic and multidimensional phenomenon (Atkinson 2002; Silver 2010; Giambona and Vassallo 2014). The inclusion is context-specific and is determined by social, economic, cultural and national differences. The shapes of social inclusion are changing over time. As a multifaceted phenomenon it appears in several dimensions: economic, social, cultural, symbolic, institutional and spatial. This concept can be operationalised in terms of equity, cohesion and participation (Fritz and Koch 2014).

Equity (the first element) is disclosed through distribution of goods, power and status in society. The second element relates to within- and out-group integration. Obviously, cohesion is not restricted by within-group interaction, because 'strong in-group loyalty may also create strong out-group antagonism' (Putnam 2000:23). For social inclusion it is important to bridge the gap between different social groups, to improve the social and symbolic bonds that normally tie an individual to society. Cohesion is tightly knit with the third aspect of social inclusion—participation— that refers to opportunities and resources of the population to shape and organise their common social behaviour, to participate fully in economic, social and cultural life. Inclusive development assumes that excluded people are being involved in these processes (Johnson and Andersen 2012).

Subsequently, the issue of inclusive innovation has emerged as a way to understand how knowledge creation, dissemination and absorption can contribute to meeting the needs of specific vulnerable social groups, offering them an access to better-quality innovative goods and services, advanced knowledge and skills. Universities, being hubs for knowledge creation and transfer, cultural and social progress, have every reason to be regarded as a powerful lever for social inclusion.

As shown below, the necessity of social inclusion through education is quite acknowledged in Russia. Equal rights and opportunities for all social groups with respect to accessing relevant resources have become a more and more debated topic, especially in the education sphere. It is closely tied to particular dimensions of social disparities at the regional level—structure of local labour markets, regional income differentiation, quality of education programmes, infrastructure and teaching skills. The situation is more complicated for the disabled. Official statistics provide a limited set of indicators referring to vulnerable social groups of the population: people with disabilities, the poor and residents of remote territories (see Annex 1).

In the post-Soviet period the higher education system (HES) has gone through substantial changes in the context of the socio-economic transition. At the same time, it has retained many features of the Soviet past. This chapter refers to a contemporary discussion on the inclusive development in Russia and respective

roles of universities. We begin with an overview of the overall policy framework for inclusive innovation and involvement of higher education institutions (HEIs) in such processes. In order to ensure deeper understanding of universities' impact on inclusive innovation, we discuss actual problems of the national HES and its evolution during the post-Soviet period. Then we focus on functions of universities aimed at social inclusion and development in the context of NIS. We explore and systematise these inclusive functions of universities through the lens of the Russian NIS, examine their actual and potential implications to the social inclusion processes as well as their capabilities to meet the future challenges of innovative social development.

The National Context

A Broad Policy Framework for Inclusive Innovation

Inclusive innovation activities could be treated as a 'public good' and, therefore, become a component of the state's both social and innovation policies. In this section we touch upon the Russian case to illustrate such sort of top-down initiatives in terms of composition, policy tools, target groups, and expected effects.

The term 'inclusive innovation' has not been defined exhaustively in the Russian legislation to date. However many innovation-related and socially oriented government initiatives have been adopted without being classified as elements of a uniform national inclusive innovation framework. Meanwhile in the first decade of the twenty-first century the government strategic plans drew some parallels between socio-economic development and innovation-based growth. For example, the 'Concept of Long-Term Socio-Economic Development' included a considerable part devoted to S&T and innovation, setting priorities and reform roadmaps in these domains.[1] The so-called 'Presidential May decrees', among other issues, have tied together challenges of socio-economic development and innovation policies as well.[2] The official Russian S&T Foresight also includes challenges and recommendations related to social functions of healthcare technologies, information and communication technologies (ICT), and other S&T areas for the long-term (Gokhberg 2014). Finally, enabling social functions of innovation have become a substantive issue for the Russian STI policy agenda (Gokhberg and Kuznetsova 2011, 2015).

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[1] 'The Concept of Long-Term Socio-Economic Development of the Russian Federation Until 2020' was adopted by directive of the Government of the Russian Federation N 1662-r of November 17, 2008. http://economy.gov.ru/minec/activity/sections/fcp/rasp_2008_N1662_red_08.08.2009 (accessed 30 May, 2015). However it has almost immediately become irrelevant due to the global economic crisis of 2008.

[2] The 'Presidential May decrees' is a package of 12 official documents (Decrees of the President of the Russian Federation NN 594, 596–606, of May 7, 2012), setting a framework of goals and initiatives (programmes) aimed at modernisation and socio-economic development.

In the early 2010s, the 'Strategy 2020' has become a basic guidance for socio-economic development targets and scenarios in Russia. This set of expert recommendations has for the first time mentioned inclusive innovation as a coherent set of goals and allied policy tools (Gokhberg et al. 2013). According to the 'Strategy 2020' provisions inclusive innovation should be regarded as a new priority in the context of a 'progressive' innovation policy model together with stimuli for effective innovation activity and functional priorities to promote academy-industry linkages and cover existing gaps in the innovation cycle (in contrast with a conservative 'inertial' scenario focused on purely political targets and sectoral priorities). The recommendations do not contain a precise formal definition but specify inclusive innovation as a subset of socially oriented innovation activities, aimed at integration of socially vulnerable population groups into innovation processes. Consequently, inclusive innovation should be regarded as a subcategory of social innovation. Other domains of the policies recommended within the latter's package include development of innovative human capital, promotion of 'a creative class' and improvement of public awareness in innovation.

The 'Strategy 2020' also discloses a structured composition of policy objectives and related actions. The inclusive innovation domain in this framework is represented by four blocks:

- Raising standards in social services (remote access to healthcare, social security, education and public services) to meet the needs of vulnerable groups of the population
- Public subsidies to deployment of broadband Internet and inexpensive mobile phone networks in remote regions
- Setting up a network of public centres for collective Internet access for the benefit of vulnerable groups of the population
- Implementation of affordable training programmes to improve computer literacy and language skills of the population

In general inclusive activities have already been integrated into a wide scope of public policies in Russia. Perhaps the most ambitious output is the national e-government infrastructure with a set of interconnected platforms providing online interaction between public authorities, non-public organisations (including business) and individuals.[3] One of the platforms is the 'Unified Portal for State and Municipal Services' which provides the majority of possible public services delivered via authorised web access to individuals and especially to the disabled population or residents of remote areas. The Portal is a component of the State Programme 'Information Society (2011–2020)' which contains strategies, roadmaps and action plans for developing the national e-government infrastructure particularly and the whole national information infrastructure in general (including broadband Internet and mobile phone networks in remote regions, centres for collective Internet access, etc.).[4]

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[3] The initiative was launched by the Order of the Government of the Russian Federation 'On the State Programme of the Russian Federation 'Information Society (2011–2020)' N 1815-r of October 20, 2010. http://www.rg.ru/2010/11/16/infobschestvo-site-dok.html (accessed 30 May, 2015).

[4] This Programme was adopted by the Statement of the Government of the Russian Federation 'On Adoption of the State Programme of the Russian Federation 'Information Society (2011–2020)' N

ICTs have been recognised as a powerful tool for inclusive social development. To coordinate corresponding policies at a high level a special governmental commission was established in 2013.[5] Among other tasks this body supervises social and business inclusion based on ICT solutions. To deploy an efficient and accessible socially oriented ICT infrastructure and disseminate necessary skills a variety of regional programmes and initiatives have been adopted and developed. The 'Information City' programme launched in Moscow in 2011 is a strong example of a complex local initiative promoting ICT-based inclusive innovations on the city level.[6] It incorporates three functional sub-programmes aimed at (1) improvement of quality of life and business environment via ICT, (2) creation of an intellectual city management system and (3) penetration of an open-access urban information system. Particularly, the programme is intended to coordinate development of remote education, online access to municipal health care services, information infrastructure for business communications, and so on.

The above-mentioned initiatives are usually developed around a 'tool' (mainly ICT means for remote access to services, healthcare, education, employment) or around a 'topic' (e.g. infrastructure, healthcare, education, public services) for the overall general public or for a wide scope of target groups just including the disabled or remotely settled communities. At the same time there exists an example of an initiative purely focused on a target group, namely the State Programme 'Accessible Environment' for 2011–2015.[7] This strategic document is aimed at providing the disabled with an access to necessary objects and services by 2016 as well as to modernising the public system of rehabilitation and medical/social expertise. In line with the programme numerous actions have been scheduled in order to adapt institutions and objects of culture, education, recreation, social services, media, etc., for access by the disabled and people with limited mobility capabilities. A considerable part is devoted to creation of a more effective, flexible and personalised rehabilitation system. In addition, numerous amendments have been or are to be made to legal acts and regulations touching this topic.

The intermediate lessons from the 'Accessible Environment' programme have shown that the introduction of new government actions would not be effective enough without amendments and additions to existing legal framework addressing the target groups and involved public institutions. In 2014, the Federal Law 'On Social Protection of the Disabled' was modified to cover individual rehabilitation

313 of April 15, 2014. http://www.rg.ru/2014/04/24/inf-obshestvo-site-dok.html (accessed 30 May, 2015).

[5] The 'Government Commission on the Use of Information Technology to Improve Quality of Life and Business Environment' was formed by the Statement of the Government of the Russian Federation N 735 of August 26, 2013. http://www.rg.ru/2013/09/02/komissiya-site-dok.html (accessed 30 May, 2015).

[6] The Statement of the Government of the Moscow city 'On Adoption of the Governmental Programme of the Moscow City 'Information City (2012–2016)' N 349-PP of August 9, 2011. http://dit.mos.ru/legislation/lawacts/588135/ (accessed 30 May, 2015).

[7] The Statement of the Government of the Russian Federation N 297 of April 15, 2014 'On Approval of the State Programme of the Russian Federation 'Accessible Environment' for 2011–2015'. http://www.rg.ru/2014/04/24/dostup-sreda-site-dok.html (accessed 30 May, 2015).

programmes for this category of the population.[8] Today such programmes are guaranteed to be developed and offered by the State individually and free of charge for disabled individuals to assist them with rehabilitation, healthcare, mobility, education, professional activity and integration into society. They also offer free assistance, training and necessary tools and equipment for mobility, remote healthcare, education and employment. Beyond that, important changes were made to the national Tax Code. Special preferences were guaranteed by the State to companies established by or employing the disabled. Such preferences include the advantage for the transfer of pension contributions, preferential personal accident insurance, rebates for land and property taxes, VAT and income tax exemptions.[9]

Universities as Inclusion 'Actuators': Involvement in Public Policies

The 'second mission' of the Russian universities and its implications to the national STI system have been discussed for quite a while (Gokhberg et al. 2009). Among other functions the HEIs should ensure social mobility by providing equal opportunities to obtain knowledge and skills for all social groups. Moreover, a university could be regarded as a 'sub-society' creating and delivering to its members certain cultural values, social and professional ties. On the other hand, increasing inequality in access to education provokes substantial risks for social and cultural development of the nation. Hence it is not surprising that governments assign a prominent part of their inclusive social policies with HEIs.

As for the above-mentioned 'Strategy 2020', it pays particular attention to remote education and e-learning. This tool is also mentioned by various programmes and regulatory documents discussed earlier. Nevertheless the most important shifts occur in the core legislation. In 2014, respective amendments to the Federal Law on Education were adopted.[10] The new edition of the legislation indicates inclusive education as one of the State's guaranties to the population. The innovative component here refers to possible standards and tools for remote education (for disabled groups, population of remote areas, etc.). Local (regional) acts were modified in accordance with these changes in the federal legislation. Thus, the Law of the Moscow City 'On Education for the Disabled' was supplemented by a reference to

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[8] These changes and amendments were applied in June 28, 2014, to The Federal Law 'On Social Protection of the Disabled in the Russian Federation' N 181-FZ of November 24, 1995. http://www.rg.ru/1995/11/24/invalidydok.html (accessed 30 May, 2015).

[9] These amendments to the 'Tax Code of the Russian Federation (part I)' N 146-FZ of July 31, 1998 (http://www.rg.ru/2007/03/12/nalog-kodeks.html (accessed 30 May, 2015)), and 'Tax Code of the Russian Federation (part II)' N 117-FZ of August 5, 2000 (http://www.rg.ru/2007/03/12/nalog-kodeks2.html (accessed 30 May, 2015)), were approved in June 28 and September 1, 2014, respectively.

[10] The Federal Law 'On Education' N 273-FZ of December 29, 2012. http://www.rg.ru/2012/12/30/obrazovaniedok.html (accessed 30 May, 2015). It was amended on July 21, 2014.

standards and municipal guarantees for remote education and related assistance aimed at social inclusion of the disabled population.[11]

It is noteworthy, that the 'Strategy 2020' interprets inclusive innovation initiatives in education as tools providing the target groups with remote access to knowledge and skills (mostly by ICT means), e.g. e-learning (Gokhberg et al. 2013). And this is true while considering inclusive innovation per se. However the strategy specifies another similar direction, to wit, inclusive education. It qualifies inclusive education as a component of a 'stabilisation' scenario which is aimed at equalisation of learning capabilities in the stratified society. It contrasts with a 'restauration' policy model, which is limited to just guarantees of an equal access (but not capabilities) to education. More precisely, inclusive education policies imply promotion of specialised education assistance programmes for people with disabilities, for talented students and for children in a difficult life situation.

The practice of transfers from the federal budget to local ones for these purposes has been held for several years, and such territorial distribution of funding could be explained by strong regional factor of social inequality (interregional inequality) in Russia (Zaichenko 2014). For instance, this mechanism was implemented in the state programme 'Accessible Environment' (discussed above) to finance, among other activities, infrastructure for disabled schoolchildren. Inclusive education policies are actively supported on the local level, which could be exemplified by the Moscow City law on education for the disabled.[12] The document establishes standards and municipal guarantees for assistance in adaptation of the disabled to learning at schools and HEIs, remote education and related activities. The key point of this document is that the City Government *guarantees* inclusive higher education and provision of necessary assistance and equipment to disabled enrollees or students. HEIs enrolling these students, in their turn, obtain earmarked subsidies and are obliged to provide 'barrier-free environment' and individual approach to the learning process. Social scholarships are also offered to the vulnerable social groups. Remote education (including necessary equipment) is guaranteed for the students who are unable to attend the inclusive education.

From an historical point of view the federal and local initiatives discussed above are rather new for Russia. They embody a significant shift from conservative education policies (guaranteed equal access to education without assistance in learning process) towards a more comprehensive paradigm of *equalised learning capabilities and adaptive learning environment*. Meanwhile binding nature of such top-down policies eliminates inclusive education as a pure initiative of HEIs. The options they have are whether to develop inclusion proactively or just formally.

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[11] More precisely, the amendments of June 25, 2014 to the Law of the Moscow City On Education for Individuals with Limited Abilities in the Moscow City N 16 of 28 April 2010. http://www.rg.ru/2014/07/16/moskva-zakon37reg-dok.html (accessed 30 May, 2015).

[12] The Law of the Moscow City 'On Education for Individuals with Limited Abilities in the Moscow City' N 16 of April 28, 2010 (edition by the Law N 37 of 25 June 2014). http://dogm.mos.ru/upload/iblock/91e/zm_16_07_04_1999_r14.pdf (accessed 30 May, 2015).

An Overview of the Higher Education System

The Impact of Universities on Social Development in Russia

The Russian HES faced several challenges in the transition period. First, the public opinion is that higher education is 'a must'. Surveys of social attitudes to education demonstrate that the vast majority (88 %) of population with children aged between 4 and 22 years consider higher education to be important for their children's future; 72 % of respondents say they would like to invest in higher education. They believe that it helps to obtain well-paid positions (74 % of respondents), become highly demanded professional (45 %) and achieve success (43 %) (Petrenko et al. 2010). Public demand for higher education stimulated the growth of HEIs population. Since early 1990s the higher education network in Russia has been greatly expanded (Table 12.1). By 2008/2009 the number of HEIs increased to 1134 from 514 in 1990/1991. During that time, the population of students had grown by 2.7 times, and achieved 7,513,100.

Additionally, the public demand contributed to the development of private education in Russia: over 350 non-state universities emerged by 2000s (Table 12.1). Public HEIs also opened fee-paying slots and programmes. In 2013 the total share of fee-paying students (bachelor, specialist and master's degree programme) amounted to 61 % (HSE 2014a, b:45). It is important to note the difference between public and private universities. The evolvement of non-state HEIs was accompanied by discussion of the quality of education at this sector, the status of their certificates, etc. (Gokhberg et al. 2000). Contemporary surveys show that the level of knowledge and skills of entrants in public HEIs (not including their branches) is comparable to the level in the private ones. In 2013 the average scores for the Unified State Examinations (USE) was 63.2 in the first group of students and 61.5 in the second.[13] However the analysis of differences by source of funds brings out more substantial variance. Average USE scores for among enrollees at public and private HEIs were 66.6 and 66.2 on the state-funded places vs. 59.8 and 56.7 on the fee-paying places, respectively.

Statistics demonstrate unbalanced demand for universities' diplomas in different fields of study (Table 12.2). For example, the period 1995/1996–2005/2006 the population of students in 'social sciences, business, administration and law' increased at least 5 times, 'education'—4 times, while in 'agriculture, forestry, fisheries and veterinary'—only in 1.6 times. The demand for such profiles as 'health and welfare' and 'natural sciences, mathematics and statistics' remained stable in this period. As the result, the proportion of 'social sciences, business, administration and law' and 'humanities and arts' in the population of students amounted to 56 %. It is not evident that these shifts correspond to trends of demand on labour market. The excessive numbers of lawyers, economists, managers, accountants and the like being produced by universities concerned both politicians and researchers

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[13] According to outcomes of the monitoring project 'The quality of HEI enrollment' by Higher School of Economics. http://www.hse.ru/ege/second_section2013/about (accessed May 20, 2015).

Table 12.1 Number of institutions and enrolments at public and private HEIs in Russia, 1990/1991–2013/2014

	1990/1991	1995/1996	2000/2001	2005/2006	2006/2007	2007/2008	2008/2009	2009/2010	2010/2011	2011/2012	2012/2013	2013/2014
Total number of HEIs	514	762	965	1068	1090	1108	1134	1114	1115	1080	1046	969
Number of public HEIs	514	569	607	655	660	658	660	662	653	634	609	578
Number of private HEIs	–	–	358	413	430	450	474	452	462	446	437	391
Enrolments (000)	2824,5	2790.7	4741.4	7064.6	7309.8	7461.3	7513.1	7418.8	7049.8	6490	6073.9	5646.7

Table 12.2 Higher Education Enrolment by Field of Study (at the beginning of the school year) thousands of people

	1995/1996	2000/2001	2004/2005	2005/2006	2010/2011	2011/2012	2012/2013	2013/2014
Social sciences, business, administration and law	473.8[a]	1176.8[a]	2156.4	2374.1	2432.8	1835	1267.4	771.7
Engineering, manufacturing and construction	597.6	829.1	1254.3	1271.1	1228.8	987	766.7	557.8
Humanities and Arts	500.1[a]	1026.5[a]	1306.1	1306.3	1318	1028.3	753.8	481.5
Education	179	268.1	700.3	713.7	494	364.6	256.6	156.6
Health and welfare	163.7	167.9	197.7	201.2	218.6	221.6	227.6	240.6
Agriculture, forestry, fisheries and veterinary	149.8	185.1	246.2	245.5	214.5	170	128.8	90.5
Natural sciences, mathematics and statistics	221.6	269.8	313.2	226.3	167.1	126	92.6	63.3
Information and Communication Technologies (ICTs)	47.9	76	147.1	155.3	153.3	115.5	84.6	57.3
Services	47.9	103.3	72.1	83.9	104.8	81.2	56.7	34.3
Other	0.1	0.4	-	-	-	-	-	-

Source: HSE (2014a, b)

[a]In 1995/1996 and 2000/2001 the field 'Humanities and Arts' included 'Social sciences' under the title 'Humanities and Social sciences'

(Gokhberg and Kuznetsova 2010). Paradoxically, that only 23 % of HEI graduates succeed in finding a job within their specialisation (HSE 2014a). Despite this fact, the public demand for above-mentioned professions does not decrease and the share of students in these fields remains almost unchanged (51 % in 2013/2014).

A second challenge faced by the HES is a demographic decline, induced by the recession and decline of the living standards in the first years after collapse of the Soviet Union. The situation of uncertainty motivated Russian families to have fewer children. The birth rate declined from 12.1 newborns per 1000 population in 1991 to 8.6 in 1997, and the death rate increased from 11.4 to 13.8, respectively. The number of children and young people (below 19 years old) decreased since 1992 to 7 % in 1997 and to 31 % in 2014 (Rosstat 2014). So, the cohort of population applying to universities reduced in this period that induced the competition for students among HEIs (Androushchak et al. 2013). Described situation became one of factors caused the rundown on the HEIs. In 2009 the process of merger started. Some universities were reorganised by joining them to other institutions as structural divisions or eliminated. As a result, by 2013/2014 the number of HEIs decreased by 13 % and amounted to 969 (Table 12.2). The enrolment decreased by 24 % and counted for 5646.7 thousand in 2013/2014.

Third challenge is the introduction of Unified State Examinations (USEs) as a form university admission examination. Initially HEIs had the right to set up own format of entry exams, that forced pupils to choose a university in advance and attend various preparation courses. Besides, the level of skills and knowledge enrollees depends a lot on school characteristics, residence, etc. Consequently, the opportunities for students to enter the university were not irrespective of their residence or type of school graduated. The idea of USE was to guarantee equal opportunities for all enrollees. This form of final examinations was proposed as an experiment in 2001.[14] In 2005 USEs were adopted as a compulsory form. In 2009 it became the unique form of high school graduation and main form of university admission examination. However, USE has induced deep institutional transformations in HES. HEIs lost control over enrolment. Moreover, the expenses on admission to HEI have reduced (Yudkevich 2014). At the same time, there is still some critical discussion about USE. It is considered to be too simplified to adequately reflect necessary competences of enrollees (Gokhberg et al. 2012).

A National University Model in the Context of Contemporary Approaches to Innovative Inclusion and Social Development

Since 2006 the problem of human capital and education advancement in particular was further developed. The Russian HES has undergone significant modernisation. The National Priority Project for Education (2006–2007) has marked the beginning

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[14] See footnote 1.

of large-scale systemic initiatives aimed at boosting HEI research on competitive level. For instance, it included grants for universities implementing innovative education programmes (IEPs). Such centres of excellence (57 beneficiaries) were provided with additional funding (two-year institutional grants) of about 30 million USD total (Gokhberg and Kuznetsova 2010:221). These grants served to support staff training and professional development programmes, modernisation of educational infrastructure and the acquisition of research equipment. Apart from IEPs the National Priority Project for Education has performed a substantial inclusive load both on federal and local levels: 3 thousand schools were recognised as 'innovative' and obtained institutional grants; more than 18 thousand schools were connected to the internet; more than 1.7 thousand school buses were delivered to remote area (rural) schools. The Project also provided grants for talented youngsters (through school competitions and olympiads) and best teachers, funding for school equipment, training programmes for servicemen, etc.

The regulation and rehabilitation of weak HEIs, appeared in the last two decades, became other important focus. Therefore to increase their efficiency it was decided to merge such universities with the stronger ones (Yudkevich 2014). The merging process has already started and several federal universities which unite regional major universities have been established since 2006. According to the concept of creation and state support for the development of federal universities it is expected that a federal university will (1) create and train competitive human capital in the federal districts; (2) provide qualified personnel in order to ensure socio-economic development of territories and their regions; (3) provide integrated personnel and scientific maintenance of large-scale projects and programmes implemented on the federal and/or on regional levels and (4) ensure training, retraining and personnel's skills development (ibid.).

In 2008, a programme aimed at supporting top-universities with a status 'National Research University' (NRU) started. Unlike IEP it was an attempt of complex modernisation of the HEI and R&D sector and development of new institutional organisation of R&D and educational activity. Universities submitted 5-year development plans. After the review of all applications, 29 universities got national research university status (12 in 2009 and another 17 in 2010). The aim of NRUs is to create on the basis of such HEIs world-class advanced scientific and educational centres that could meet national economy needs for highly qualified personnel, and to contribute to the development of Russian science and technology. NRUs were entitled project funding to develop the competences of professors and research programmes.

The creation of several federal universities and NRUs demonstrates the specific changes in higher education policy in Russia. These are large-scale institutions resulting from the merger of smaller local universities to become educational centres for macro-regions. They were established to foster Russian science's world-class level achievement and for further development of higher education. Furthermore such changes are believed to strengthen the relations between HEIs and both the economy and social sphere, and to promote creation and distribution of innovative goods and services.

In 2013 the Programme on the Improvement of Global Competitiveness started. One of its main objectives is the inclusion of at least 5 Russian universities in top

100 of the major global universities ratings until 2020 (Box 12.1). To achieve this goal universities should improve such indicators as the number of publications, citation index, the level of internationalisation among professors and students. In terms of the programme 15 universities were selected (based on their development plans and roadmaps). They are to receive financial support in the next several years.

This initiative, also known as '5-100' Project, was developed in response to one of the 'May decrees',[15] which defined framework for the most important initiatives like HEI performance monitoring, revision of the federal higher education standards, promotion of talented students, etc. The decree also determined key targets including substantial growth of public support (competitive institutional and project funding) to the most promising HEIs (including ones providing degrees in engineering, medical and natural sciences), 100 % access to primary education, and others. The document also provided a set of target indicators.[16] Provisions of this document in line with some others are systemised in the State Programme 'Education Development' for 2013–2020 (2013), which aims to provide full-scale financing for upgrading the national education system.[17]

NRUs and '5-100' universities are regarded to be centres of excellence in a broad sense, including excellence in their social mission. As discussed below, the latter one

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Box 12.1. Project '5-100'

The '5-100' Project took its title in accordance with one of its target indicators (minimum 5 Russian universities entering top 100 in the world rankings by 2020). It was launched in 2013 by the Statement of the Government of the Russian Federation N 296 of April 22, 2013 'On Measures of Public Support for the Leading Universities of the Russian Federation in Order to Increase their Competitiveness among the World's Leading Research and Education Centers'. The Statement defined the total 2013 programme funding and established the Programme Council responsible for selection of the most promising universities. Selection criteria included presence in the world rankings (ARWU, THE, QS), complete scope of degrees, education (headcount and quality of students), and R&D (volume of R&D, amounts and quality of outcomes)

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[15] Namely, the Decree of the President of the Russian Federation N 599 of May 7, 2012 'On Measures to Implement State Policy in the Field of Education and Science'. http://www.rg.ru/2012/05/09/nauka-dok.html (accessed 30 May, 2015).

[16] For example, it prescribed increase in the total funding of public scientific foundations to 25 billion RUR (by 2018), growth of the GERD/GDP ratio to 1.77 % (by 2015), as well as the share of universities in the GERD up to 11.4 %. The document also implied boosting of Russia's share in the number of international indexed scientific publications (in the Web of Science databases) to 2.44 % (by 2015).

[17] The Statement of the Government of the Russian federation N 295 of April 15, 2014 'On Approval of the State Programme of the Russian Federation 'Education Development' for 2013–2020'. http://www.rg.ru/2014/04/24/obrazovanie-site-dok.html (accessed 30 May, 2015).

Box 12.1. (continued)

performance, as well as indicators of international collaboration, academic mobility, and quality of strategic programmes.

In 2013 the Council received 56 proposals and 15 of them were approved. The institutional strategic programmes included 8 general topics, devoted to establishing a succession pool, attraction of young faculty staff and researchers, development of academic mobility, promotion of postgraduate programmes and doctorates, collaboration with leading international and Russian universities and research organisations, attraction of foreign students, etc. For 2013–2014 over 312 million USD were allocated among 15 selected universities, and 800 million USD were earmarked for 2015–2016. In 2015 five participating universities entered the top 100 in the world's university rankings (QS and THE).

However temporary achievement of this formal target does not intend a complete success of the '5-100' Project. The set of its academic excellence goals includes creation of long-term competitive advantages, comprehensive internationalisation, assuring world-class level of education process and intellectual outputs, building up robust academic reputation, deep integration into STI system. The participating universities are being monitored and evaluated annually to reaffirm their leading positions.

Source: Official website of the project (English version is available): http://5top100.ru

appears in close cooperation of HEIs with the local community and enhanced openness to all social groups regardless of remoteness, health condition, or income level (Gokhberg et al. 2013). Inclusion behaviour can be realised at universities by multiple ways, such as specific environments, volunteer movements and student initiative encouragement, development of particular institutional units and functions, and social entrepreneurship. The following paragraphs are to illustrate these practices in Russia.

University as an Element and a Driver of Inclusive Innovation

Universities as Inclusion 'Initiators': Bottom-Up Initiatives

According to estimations of the National Research University Higher School of Economics, 38 % of HEIs in Russia do not have enough resources to conduct inclusive education, and 17 % can afford it at minimal level.[18] However more than a

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[18] Outcomes of the Project 'Monitoring of education markets and organizations (MEMO)' (http://memo.hse.ru/en/) conducted by HSE Centre for Statistics and Monitoring of Education in 2013 http://issek.hse.ru/en/news/125141305.html (accessed May 27, 2015).

quarter (29 %) of universities report enough resources for such activities, and 16 % are completely ready to meet the requirements of inclusion. These figures show that federal and regional funding for inclusive higher education sometimes are not enough to cover the corresponding costs of HEIs. However bottom-up initiatives independently developed and introduced by universities themselves can appear sometimes more effective and innovative, less expensive and bureaucratic, than a set of declaratively established by the state guarantees.

In this study we have analysed inclusive activities of 15 universities taking part in the 'Project 5-100' Project '5-100' (Box 12.1). These are the most successful Russian HEIs which are capable to combine implementation of public policies with their own inclusive initiatives and to build up innovative inclusion models suitable for replication by others. Moreover, these universities are expected to give a high start to their alumnus, and inclusive activities of these 'social elevators' are of utmost importance for professional and scientific careers of the disabled and other vulnerable groups.

At first glance all participants of the 'Project 5-100' perform the basic level of inclusion perfectly. They develop 'barrier-free' environment, provide individualised examination procedures and enrollment priorities for vulnerable groups, as well as publicly subsidised courses and scholarships. However even these primary requirements appear rather problematic to meet. Old buildings are prevailing for majority of Russian universities, they look quite unsuitable for the disabled and are very difficult to modify. Standard (core) education programmes are rather inflexible and sometimes difficult to modify regarding needs of the disabled. Individualised examination and education programmes offered to the disabled are not followed by special training for the teaching staff and do not include rehabilitation components. Remote education is well developed in majority of the '5-100 Universities', but mainly in the form of additional education and training. Inclusive activities are lacking public visibility, it is still difficult for a disabled to obtain all necessary information to choose the university, organise one's enrollment, get the required benefits, etc. Finally, intramural inclusive projects and programmes of universities remain at great extent isolated from the activities of external organisations acting in the interests of vulnerable groups of population.

In some cases such obstacles have stimulated response bottom-up initiatives based on individual opportunities and practices of HEIs. For example, troublesome adaptation of old buildings and facilities induces fast-growing universities to build 'barrier-free' environment from scratch on a new territory, transferring there the bulk of the faculty and administration. In this context the growth potential is being converted into 'barrier-free' capabilities (Box 12.2). Another direction of technical development is proactive dissemination of remote learning methods and programmes based on growth and accumulation of knowledge. The example below addresses to Lomonosov Moscow State University e-learning system, but elements of virtual infrastructure like electronic libraries and e-learning portals are being developed by other leading universities as well.

Lack of inclusion assistance skills on the side of teaching staff, underdeveloped information and consultancy assistance, weak links with external foundations and

Box 12.2. Cases of Far Eastern Federal University and the Lomonosov Moscow State University: Embedded Barrier-Free Environment and e-learning Virtual Space

Far Eastern Federal University (FIFU) represents the largest university infrastructure accessible to the disabled in Russia. In 2013 FIFU has opened a new complex combining a campus for 11,000 students and faculty staff, academic buildings, as well as transport, residential and recreation infrastructure. Prior to the start of construction in 2009 the FIFU management had engaged experts to correct the construction project regarding needs of the disabled and complement it with all necessary elements and equipment. Today the whole FIFU campus of 200 ha and the new building area of 800,000 m^2 are recognised as the largest university 'barrier-free' territory in Russia.

Source: website of the university http://www.dvfu.ru

Lomonosov Moscow State University (MSU) develops its own programme of complex e-learning environment combining electronic libraries, textbooks, courses and audiovisual media. This initiative allows continuous accumulation and systematisation of academic knowledge for open access. One of directions of the project is a series of internet lectures for specialised schools and colleges (attended by the disabled).

Source: website of the university http://www.msu.ru

non-commercial organisations, and other problems of such kind could be successfully solved on the volunteer level. Encouraging of university volunteer movements is a strong basis for creation and development of 'social spin-offs' (Box 12.3). The latter are often more flexible and efficient than administrative bodies at universities or local governments.

Some inclusive initiatives require high extent of innovativeness and creativity and are difficult to design on the routine administrative level. Inflexibility of the

Box 12.3. Case of Tomsk Polytechnic University: Volunteer-Based Inclusive Activity

Tomsk Polytechnic University (TPU) performs the same general inclusive activities as many other Russian HEIs, like priority enrollment to publicly funded courses for the disabled, and for children in a difficult life situation (orphans, children deprived of parental care, etc.), individualised procedures of entrance examination for the disabled considering specific type and level of disability, deployment of 'barrier-free' environment in academic buildings and campuses, and so on.

(continued)

Box 12.3. (continued)

However since 2003 it has been developing its own initiative 'Higher education accessible for the disabled' (DIVO). Originally DIVO was a volunteer group inside the TPU focused on raising academic awareness about the topic, holding methodological workshops, building up linkages between involved social groups, academic communities, and regional authorities. Nowadays it is an independent non-profit organisation conducting its own intra- and inter-regional social programmes, providing personal legal advice and rehabilitation services, organising cultural events, establishing collaboration with similar Russian and international organisations and movements.

Source: website of the university http://tpu.ru

'core' education programmes and lack of adaptability to non-standard groups of students (as well as to changing social challenges in general) could be reduced by 'demonopolised production' of education programmes. We refer to the practice of competitive promotion of new (innovative, experimental) education programmes designed independently by action teams of teachers, researchers or even students. It is quite a new practice for Russia, but the primary outcomes look promising (Box 12.4).

The 'innovativeness' of inclusive initiatives discussed above is defined not by technically new education tools or methods, but rather by creative design and imple-

Box 12.4. Case of Higher School of Economics: Encouragement for Inclusive Education Programme Initiatives

Higher School of Economics (HSE) has been promoting inclusion-oriented initiatives developed by student teams and faculty staff for quite a while. The university award 'Zolotaya Vyshka' encourages inter alia projects aimed at social inclusion. As an example of promising projects of such kind, the awarded initiative 'HandTalking' (2009–2010) was devoted to development of the internet navigation system for the blind. Later the 'HandTalking' team was invited to cooperate with the leading Russian IT corporations.

HSE has launched its own competition of innovative projects in higher education in 2014. The selected innovative education programmes applied by initiative teams of faculty staff and researchers will be supported and launched by HSE. The most successful experimental programmes are to be developed and incorporated into permanent structure of HSE academic courses. The main goal of the initiative is to encourage, select and support the most promising (innovative in terms of subjects, methods, competences, etc.) education programmes meeting the new challenges of education and labour markets.

(continued)

Box 12.4. (continued)

Inclusive education projects represent one of directions of the competition. For instance, one of the programmes selected in 2014 was devoted to combination of education and rehabilitation tools under a training course for disabled children.

Source: website of the university http://hse.ru

mentation of new social practices meeting needs of population (not only in general, but with all its complexity) and easy to replicate by other universities. However sometimes inclusive functions are neither new nor easily replicable (Box 12.5). The most valuable outcome from such practices is accumulated by decades of social, methodological and organisational experience.

This study has covered only common practical aspects of the Russian inclusive education. More complex and fundamental issues are resting behind the scenes. For

Box 12.5. Case of Bauman Moscow State Technical University: Institutionalised Integration of Inclusive Education Programmes, Faculty Competences and Infrastructure

Bauman Moscow State Technical University (BMSTU) has been providing specialised inclusive education for students with hearing disabilities since 1934. The practice includes specialised rehabilitation programme, personal equipment and deaf-friendly environment, involvement of specifically trained teaching staff, and so on. This inclusive function is coordinated by a specialised training and methodology research centre. The programme covers only first 2 years of courses and prepares its students to continue their further education together with the others.

Source: website of the university http://www.bmstu.ru (accessed May 30, 2015).

instance, it is still unknown, where the frontier (or cross-over?) between the government policies and the community actions should be placed. It is disputable, how to achieve the balance between bureaucratic routines and bottom-up initiatives. It is of interest to find out what the equilibrium is between inclusiveness with respect to vulnerable groups and the competitive nature of access to the university (or how to selective without discrimination). A deeper study of practical experiences and evidences will lead us to these fundamental questions sooner or later.

Universities and External Inclusive Initiatives: Social Entrepreneurship Promotion

Besides above-mentioned inclusive initiatives, universities play important role in inclusive development creating the enabling environment for outside inclusive innovation. In this regard, one of vital directions of HEIs activity is expanding their social entrepreneurship role with educational, research, outreach and venture support functions. The hybrid nature of social entrepreneurship is beyond traditional commercial and non-profit approach. Scholars define it as 'double bottom line', implying the social and financial outcomes (Emerson and Twersky 1996). Social entrepreneurship is perceived as 'the construction of opportunities for transformative social change through innovative activities occurring within or across economic and social communities in a historical and cultural context' (Tapsell and Woods 2010:539). It is acknowledged that social entrepreneurs, being agents of inclusive development, 'not only understand and construct innovative models for solving social problems but also involve other members of the community by their ideas as well as empower them to act for the public interest' (Janiunaite and Gelbudiene 2014:55). Researchers in Russia outline 3 strategies of the formation of social entrepreneurship (Moskovskaya 2011):

- A parent company (for example, association, trade union, non-governmental and not-for-profit organisation, voluntary society, etc.) creates a subsidiary aimed at supporting relevant social group.
- Individual or collective actors establish a new social business basing on the analysis of own professional and life experience and/or creativity.
- A direction of a firm's or individual's activity is developing in an independent social project.

Despite the difference of initial strategy any social entrepreneur faces the problem of asset limits. In this context they resort to cooperation and partnership, which are one of the most important resources of social entrepreneurship, based on mutual trust and experience of previous projects. This fact is well illustrated by the case of the horse centre 'Avrora' (Box 12.6).

Box 12.6. Case of Horse Centre 'Avrora': Example of Cooperation in Social Entrepreneurship

Horse centre 'Avrora' provides service of hippotherapy for people with disabilities and tries to develop equestrianism among disabled. The number of its clients is limited according to the centre's capacity that is approximately 30–50 disabled persons of different ages. Services for disabled people are free of charge. However, some parents make donations to the organisation. Also 'Avrora' cooperates with the Veterinary Institute, teen-age clubs and local

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Box 12.6. (continued)

asylum for children with disabilities. Hence, there are many students from veterinary institutions, horsemen and disabled people among the centre's stuff and volunteers. The asylum provides to the centre vegetables, hay and worn clothers for taking care of animals.

In addition the centre earns on saling and leasing horses and ponies to healthy people in summer. Therefore the centre loses to fee-paying competitors in the fight for clients, because it does not have a riding hall. The head of 'Avrora' attempted to raise governmental or/and business investments to build the manege, but so far without success.

Source: Moskovskaya 2011:125–134.

In addition this case demonstrates that sometimes social entrepreneurs lack experience in management and fundraising for business development. These skills required to obtain the grants for social projects where contestants must demonstrate both social and commercial benefits. In particular, the analysis of winners in competitions organised by funds supporting social entrepreneurship shows, that most of such social projects demonstrate capability to become financially independent from sponsorship in the future (Albutova 2013:109). A spectacular example of this is described in Box 12.7.

Box 12.7. Case of the Centre of Wheelchair Repair and Distribution 'Observer': Example of Successful Social Entrepreneurship

The 'Observer' is located in Kaliningrad. It produces wheelchairs, sells variety of tools and frequently participates in social programmes. Observer confers patronage upon Kaliningrad's association of people with disabilities. There are people with disabilities in the company's staff.

Its director is a retired military pilot. In 2004 he was paralysed because of an accident. Together with his colleague they designed an off-road wheelchair which is able to go up the stairs. In 2009 he set up 'Observer' company in Kaliningrad. However the production was organised in Asia. Observer was the first organisation in this region of such kind. In 2012 Observer won the competition 'Social Entrepreneur' by the foundation 'Our future' and received an interest-free loan to develop a regional network.

The company tries to extend a barrier-free environment for people with disabilities. 'Observer' was one of the first Russian companies which started to supply airports and beaches with disability equipment. By 2014 the company equipped for disabled people 6 recreational zones and 15 airports, opened 5 branch wheelchair repair shops and set up 3 resource centres of technical solutions for the creation of a barrier-free environment.

> **Box 12.7.** (continued)
>
> In 2014 the company won the competition 'Social Entrepreneur' for the second time and got financial support to launch production in Russia.
>
> *Source*: website of the project of the company: http://o-mp.ru/about/

According to the Agency for Strategic Initiatives,[19] about 1 % of Russian companies were engaged in social entrepreneurship in 2013. It is expected, that support for 'social business' will promote significant growth of this activity in the nearest future.[20] In this regard universities perform prominent function of training social entrepreneurs and researchers of social entrepreneurship, as well as development policy recommendations and interaction with local business communities.

Universities practice several approaches to maintain social entrepreneurs. First type is limited to the practice of training and mentoring for those who want to set up a social enterprise, to develop an existing enterprise or have an idea for business with a positive social impact in the framework of general university's programme for the development of entrepreneurship. The curriculum contains lectures, seminars and workshops advancing skills of business planning and setting up an enterprise. For example, this approach uses TPU which founded the 'Polygon of Engineering Entrepreneurship lab' (PEE). This laboratory offers training courses for promoting skills of team building, marketing, sales, project management, presentation and fundraising. It should be noted that universities organise training programmes in cooperation with successful social entrepreneurs who may share their experience with students.

The second type of support relates to consulting services. University departments facilitate realisation of social projects providing workspace, office appliances and stationary, meeting rooms, etc. and assisting in organisation of PR campaigns and fundraising. The example of such practice is the HSE's Entrepreneurship Development Programme.

The third kind is based on specific financial support. For example, HSE holds a competition of innovative business projects and additional competition 'Start-up of the Year'. There are projects of inclusive innovation among its recent winners. The most remarkable examples are a project of a high-tech device for the blind and visually impaired 'Orience' and the system providing automated access to electricity in public places 'Public socket'.

Sometimes programmes of universities are integral with inclusive activity of university and have a special focus on particular vulnerable groups of population. For example, the programme of BMSTU continues above-mentioned university's inclusive initiative aimed at people with hearing disabilities (Box 12.5) and offers sup-

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[19] The Agency for Strategic Initiatives (http://www.asi.ru) is the autonomous non-profit organisation established by the Government of Russia in 2011. Its objective is to promote projects, initiatives, and businesses in the social sphere.

[20] The Agency for Strategic Initiatives, press release from September 26, 2014. http://www.asi.ru/news/22267 (accessed May 30, 2015).

port through a system of grants, training, mentoring, etc. The programme designed for projects of social entrepreneurship that are initiated by people with disabilities or intended to manufacture innovative goods or services that can improve quality of life of this social group and other vulnerable groups.

The role of HEIs in development of social entrepreneurship could be characterised in a certain way. On the one hand, universities offer expected and evident decision (training courses) that corresponds to its traditional social role. On the other hand, HEIs act as a mentor, a partner and even a promoter of particular social group, stimulating inclusive innovation. Such activities comply with the widely discussed concept of the so-called third mission of the university. In this context university could be described in terms of a metaphor 'university as the quintessence of civil society'.

Conclusions

The Impact of Universities on Inclusive Innovation in Russia

The case study of 15 most promising Russian universities has revealed not just 'success stories', but a set of reproducible ways to establish fruitful collaboration between HEIs and the state in promotion of social inclusion. And HEIs seem to be the key actor enabling its 'innovativeness' by implementation of nonstandard, creative and, at the same time, adaptive approaches. According to the outcomes, there are factors of effective inclusive innovation: (1) growth capacity, (2) socially active community, (3) competitive support to community and business initiatives and (4) openness and absorptive capacity.

The *growth capacity of a university* implies its potential for physical (buildings and facilities) and intellectual (accumulated knowledge) growth. In the first case growth factor allows to implement physical inclusive infrastructure (e.g. 'barrier-free' environment) with a clean slate, which is much easier than trying to modernise outdated buildings and facilities initially unsuitable for the disabled. Intellectual growth capacity is a basis for accumulating a critical mass of knowledge (education programmes, methodological groundwork, R&D outcomes, etc.) which could be systematised, adopted for specific vulnerable groups and uploaded for open remote access under e-learning (or even e-research) programmes or within a uniform information system.

Socially active university community (representing students, teaching staff, researchers and alumnus) is a crucial driving force for inclusive innovation. In case of inclusive initiatives formal university management often performs limited creativity and proactivity. A well-developed intra-university community, on the contrary, is intensively focused on interests of this micro-society with all its subgroups and minorities. Free public discussion and informal ties enable its innovativeness and creativity, while total involvement and self-coordination allow fighting for its own hand. Community volunteer groups and movements promoting inclusive innovation must be encouraged and assisted by HEI administration, but not on unconditional grounds (see below). Becoming more mature such movements can grow into self-sufficient 'social spinoffs' of a university. Socially active university community

foster out-group interaction and cohesion of vulnerable groups and in this way facilitate their social integration. This corresponds to operationalisation of social inclusion given at the beginning.

Competitive support to community and business initiatives is a reasonable way of encouragement and soft (indirect) coordination of the bottom-up initiatives by university administration. The support is provided to definite well-planned and codified projects which are closely matching the university activities (like education programmes, tools and methods, university infrastructure elements and so on) as well as project of social entrepreneurship. It will guarantee natural and beneficial assimilation of the winning initiatives into the latter. The coordinating functions of university could be realised by setting priority areas of the competition and addressing them to urgent social, administrative, educative or scientific issues.

It is nonsense to look for all the elements of inclusive activity inside some particular HEI. They are means to adapt common requirements and state (or local) policies to particularities and capabilities of a definite university. However *openness and absorptive capacity* is a basic condition of any innovation activity. It deals with ability to establish external links (or to support such links developed by the community) with other actors of inclusive innovation, to accumulate inclusion experience and disseminate it in academic environment, to obtain partners and sponsors, to attract groups of interest and promote public awareness.

The Promise of University-Led Inclusive Innovation: Meeting Future Challenges

The state policies discussed above correspond with specification of inclusive innovation given in the 'Strategy 2020' (integration of vulnerable groups into innovation society) and, at the same time, are aimed at improving quality of life of the target groups—disabled people and population of remote areas—by means of innovative tools (especially via ICT). The expected effects include improvement of labour mobility, skills and productivity in the target group. According to the strategy, the social innovation development (with its inclusive component) itself is intended to engage human capital as a factor of productivity growth more intensively. The other crucial factors are effective encouraging of innovation activity and destroying the barriers for resources reallocation (including human resources) in the economy.

Since 2014 a new deep crisis had undermined the key growth drivers of the Russian economy by falling oil prices, national currency depreciation, financial and trade sanctions, and investment collapse. Human resources have become a strategically crucial factor for recovery and development. Therefore inclusive innovation in the context of the 'Strategy-2020' should be regarded not as rhetorical appeal to social equality and justice but as a realistic attempt to involve all social groups and strata into growth and development based on increasing absorptive capacity and productivity of educated labour force, even if the 'Strategy-2020' goals may look too optimistic in the new economic and political situation.

Inclusive development questions transformation of the role of university in society. Basically there are two models of university development in Russia. According to the first model, the HEI focuses on the industry needs. Its product is skilled staff. In second model the client of HEI is student. Consequently, the main product of HEI is educational programme. In a rapidly changing world, multifaceted social differentiation and fragmentation of society we need a third model. University should be an open system focused on social space in general. At the same time the role of university exceeds the limits of education. Apart from traditional education universities create conditions for development of outside social projects. University became a space for networking between different actors of inclusive development: business (including social entrepreneurs), foundations, non-profit organisations, etc.

Such university creates innovations and contributes to the development of society. The goal of higher education is to develop readiness to innovate and to use innovation, to provide with the knowledge and skills that help to find unconventional solutions in situation of uncertainty. The mission of university is social integration and expansion of the communication space, inter-group communication, and openness to all experts, students and members of the wider community. Only such approach will allow to go beyond equal access to higher education for vulnerable groups that is only first step and to realise the principle of social inclusion through enabling full and active participation of vulnerable groups in all aspects of life, including civic, social, economic and political activities, as well as participation in decision-making processes and innovation.

Annex 1: Vulnerable Social Groups in Russia (Statistical Profile)

Disabled Persons

Table 12.3 The disabled population

	Persons with disabilities (thousand)	Persons with disabilities per 1000 population
2009	13,074	91.6
2010	13,134	92.0
2011	13,209	92.5
2012	13,189	92.2
2013	13,082	91.3
2014	12,946	90.1

Table 12.4 Persons with disabilities enrolled in higher education

	Enrolments	Entrants	Graduates
2008/2009	24,994	5770	2463
2009/2010	23,248	7204	3040
2010/2011	22,939	6670	3080
2011/2012	20,080	5599	2783
2012/2013	18,919	5530	2712
2013/2014	16,779	5194	2500

Population with Income Below the Subsistence Minimum

Table 12.5 Population with money incomes below the subsistence minimum

	Population with income below the subsistence minimum		Gini coefficient
	Total (million)	As a percentage of total population (%)	Gini coefficient
1992	49.3	33.5	0.289
1993	46.1	31.3	0.407
1994	32.9	22.4	0.409
1995	36.5	24.8	0.387
1996	32.5	22.1	0.387
1997	30.5	20.8	0.390
1998	34.3	23.4	0.394
1999	41.6	28.4	0.400
2000	42.3	29.0	0.395
2001	40.0	27.5	0.397
2002	35.6	24.6	0.397
2003	29.3	20.3	0.403
2004	25.2	17.6	0.409
2005	25.4	17.8	0.409
2006	21.6	15.2	0.415
2007	18.8	13.3	0.422
2008	19.0	13.4	0.421
2009	18.4	13.0	0.421
	Population with income below the subsistence minimum		Gini coefficient
	Total (million)	As a percentage of total population (%)	
2010	17.7	12.5	0.421
2011	17.9	12.7	0.417
2012	15.4	10.7	0.420
2013	15.5	10.8	0.419

Residents of the Far North and Other Remote Territories

Table 12.6 Population of the Far North regions and other remote areas

	Total population of the Far North regions and other remote areas (thousand)	The proportion of the population of the Far North regions and equated areas in total population (%)
2001	10,962.1	7.49
2006	10,650.3	7.44
2008	10,579.9	7.41
2009	10,535.5	7.38
2010	10,511.6	7.36
2011	10,151.1	7.10
2012	10,124.5	7.08
2013	10,092.4	7.04
2014	10,039.1	6.99

Table 12.7 Higher education in the far North regions and equated areas

	Total number of HEIs	Total number of students (thousand)
2000/2001	32	160.3
2005/2006	37	311.5
2007/2008	35	302.6
2008/2009	34	298.1
2009/2010	33	298.3
2010/2011	32	277.7
2011/2012	32	250.4
2012/2013	30	227.9
2013/2014	36	162.6

Source: Rosstat (2014)

References

Albutova, A. (2013). Social Entrepreneurship in Russia: The key actors and the development potential. *Economic Sociology, 14*(3), 109–132 (in Russian).

Androushchak, G., Kuzminov, Y., & Yudkevich, M. (2013). Changing Realities: Russian Higher Education and the Academic Profession. In P. G. Altbach, G. Androuschak, Y. Kuzminov, M. Yudkevich, & L. Reisberg (Eds.), *The global future of higher education and the academic profession: The BRICs and the United States* (pp. 56–92). Palgrave Macmillan.

Atkinson, A. B. (2002). Social inclusion and the European Union. *Journal of Common Market Studies, 40*(4), 625–643.

Bauböck, R. (2004). Recombinant citizenship. In A. Woodward & M. Kohli (Eds.), *Inclusions and exclusions in European societies* (pp. 38–58). London: Routledge.

DESA (2009). *Creating an inclusive society: Practical strategies to promote social integration*. The United Nations Department of Economic and Social Affairs. Retrieved May 30, 2015, from http://www.un.org/esa/socdev/egms/docs/2009/Ghana/inclusive-society.pdf.

Emerson, J., & Twersky, F. (1996). *New social entrepreneurs: The success, challenge and lessons of nonprofit enterprise creation*. San Francisco: The Roberts Foundation.

Fritz, M., & Koch, M. (2014). Potentials for prosperity without growth: Ecological sustainability, social inclusion and the quality of life in 38 countries. *Ecological Economics, 108*, 191–199.

Giambona, F., & Vassallo, E. (2014). Composite indicator of social inclusion for European countries. *Social Indicators Research, 116*(1), 269–293.

Gokhberg, L. (Ed.). (2014). *S&T Foresight for the Russian Federation: 2030*. Moscow: Ministry of Education and Science of the Russian Federation, National Research University Higher School of Economics.

Gokhberg, L., Kovaleva, N., Mindeli, L., & Nekipelova, E. (2000). *Qualified manpower in Russia*. Moscow: Centre for Science Research and Statistics.

Gokhberg, L., & Kuznetsova, T. (2010). Russian Federation. In *UNESCO Science Report: The current status of science around the world* (pp. 215–234). Paris: UNESCO Publishing.

Gokhberg, L., & Kuznetsova, T. (2011). S&T and Innovation in Russia: Key Challenges of the post-crisis period. *Journal of East–west Business, 17*(2–3), 73–89.

Gokhberg, L., & Kuznetsova, T. (2015). Russian Federation. In *UNESCO Science Report 2015*. Paris: UNESCO Publishing.

Gokhberg, L. M., Kuznetsova, T. E., Agamirzyan, I. R., Belousov, D. R., Kitova, G. A., Kuznetsov, E. B., et al. (2013). From stimulating innovation towards innovation-based growth. In Y.I. Kuzminov, & V.A. Mau (Eds.), *Strategy 2020: New model of growth—new social policy. Final report on outcomes of expert analysis of actual issues of socio-economic strategy of Russia until 2020* (pp. 92–126, Issue 1). Moscow: Delo (in Russian).

Gokhberg, L., Kuznetsova, T., & Zaichenko, S. (2009). Towards a new role of universities in Russia: Prospects and limitations. *Science and Public Policy, 36*(2), 121–126.

Gokhberg, L., Kuznetsova, T., & Zaichenko, S. (2012). Russia: Universities in the context of reforming the national innovation system. In B. Göransson & C. Brundenius (Eds.), *Universities in transition: The changing role and challenges for academic institutions*. New York: Springer.

HSE. (2014a). *Education in the Russian Federation: 2014. Data book*. Moscow: Higher School of Economics (in Russian).

HSE. (2014b). *Education in figures: 2014. Data book*. Moscow: Higher School of Economics (in Russian).

Janiunaite, B., & Gelbudiene, E. (2014). Educating social entrepreneurs as agents for inclusive innovation. *Social Sciences, 86*(4), 54–61.

Johnson, B., & Andersen, A. D. (2012). *Learning, innovation and inclusive development—New perspectives on economic development strategy and development aid*. GLOBELICS Thematic Report. Aalborg University Press. Retrieved May 30, 2015, from http://www.globelics.org/wpcontent/uploads/2012/11/GLOBELICS2012_1_Indhold_TRYK-copy.pdf.

Moskovskaya, A. (2011). *Social entrepreneurship in Russia and in the world: Practice and research*. Moscow: Higher School of Economics (in Russian).

Petrenko, E., Galitskaya, E., & Shmerlina, I. (2010). *Educational Trajectories of Children and Adults in 2007/08 school year. Monitoring of the Economics of Education. Information Bulletin*. Higher School of Economics: Moscow. (in Russian), http://www.hse.ru/data/2011/05/19/1213859155/infbul42.pdf.

Putnam, R. D. (2000). *Bowling alone: The collapse and revival of American community*. Simon and Schuster.

Rosstat—Russian Federal Statistical Service. (2014). *Russian Statistical Yearbook: 2014*. Moscow (in Russian).

Silver, H. (2010). Understanding social inclusion and its meaning for Australia. *Australian Journal of Social Issues, 45*(2), 183–211.

Tapsell, P., & Woods, C. (2010). Social entrepreneurship and innovation: Self-organization in an indigenous context. *Entrepreneurship and Regional Development, 22*(6), 535–556.

Yudkevich, M. (2014). The Russian University: Recovery and rehabilitation. *Studies in Higher Education, 39*(8), 1463–1474. doi:10.1080/03075079.2014.949537.

Zaichenko, S. (2014). National innovation system and inequality in Russia. In M.C. Couto Soares, M. Scerri, & R. Maharajh (Eds.), *Inequality and development challenges: BRICS national systems of innovation* (pp. 80–148). Routledge.

Chapter 13
Investigating Social Inclusiveness of Universities in Latvia: Policy Discourse and University Practices

Anda Adamsone-Fiskovica

Abstract This chapter examines the role of higher education institutions (HEIs) in the promotion of social inclusiveness, both internally and externally. The empirical study is based on the case of Latvia, providing qualitative analysis of the official national policy discourse and the formal discourse represented by the medium-term strategies of the six public universities along with an identification of examples of socially inclusive innovative practices undertaken by these HEIs. The study concludes that, despite the pressing nature of the topic in the country, social inclusiveness of higher education occupies a comparatively marginal place in the official policy and university discourse. Nevertheless, the studied practices reveal that there is quite a wide spectrum of initiatives present in the field of formal and informal adult education, community engagement, counselling, as well as social assistance that are nonprofit oriented and make a notable contribution to promoting social inclusiveness by addressing diverse public needs.

Keywords Latvia • Universities • Social inclusiveness • Social innovation • Higher education

Introduction: Positioning Universities in the National Social and Economic Development of Latvia

It has been widely acknowledged that universities, and higher education institutions (HEIs) more generally, have been undergoing a range of transformative developments that are accompanied by diverse new challenges regarding the production and application of knowledge and the contribution to national social and

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economic development (Gibbons et al. 2007; Neave 2000; Etzkowitz et al. 2000; King 2003; Bridges et al. 2007; Göransson and Brundenius 2011; Geuna and Rossi 2015). HEIs are seen as crucial in ensuring accessibility of tertiary education, tackling social exclusion and inequalities, and promoting the competitiveness and social welfare of both individuals and nations. Universities figure as important players of knowledge and innovation creation in national economies and are increasingly involved in various commercial and non-commercial partnerships with external agents.

Nowadays the academic discourse is becoming more concerned with university partnerships not only with public authorities and private sector representatives but also with civil society, thus making the university take a more visible role in stimulating and guiding the utilisation of knowledge for social, cultural, and economic development (Göransson et al. 2009a). The so-called third mission of universities provides for the development of increasingly multiform links with a wider community along with their so far primary functions of education and research and responsiveness to the needs identified beyond the academic community. Nevertheless, one can observe a differentiation between societal (i.e. serving community needs) and technological (i.e. technology transfer to industry) third mission in speaking about various types of cooperative outreach functions of universities (Göransson et al. 2009b).

Latvia, which represents an East European country having undergone transformations in almost all sectors of the economy since the 1990s, after regaining its independence from the former Soviet Union (USSR) (see Adamsone-Fiskovica et al. 2011), has been enlisted among countries where "*the political rhetoric often claims a closer interaction between universities and society, but in the factual implementation rules, technology transfer towards industrial enterprises dominates*" (Göransson et al. 2009b:160). The discourse on third mission of universities in Latvia has thus been more inclined towards stressing the technological dimension of this kind of extension activities (Adamsone-Fiskovica et al. 2009) and has been a rather technocratic one (Ādamsone-Fiskoviča, 2012). Yet, the overall national debate and various policy interventions are evolving, opening room for further studies on the social and economic role and the manifold missions of universities in Latvia.

Recent academic studies on universities in Latvia have focused on the present role of HEIs in regional development (Vīksne 2010; Tisenkopfs et al. 2011; Stankevičs 2015) as well as the contribution of universities to the national economy in terms of innovation and other public services (Association of the Universities of Latvia 2012). Rather extensive research has been carried out on university-business-government partnerships (Muravska and Prause 2012; Ozols et al. 2012; Jarohnovich and Avotiņš 2013; Kronberga 2014). Research efforts have also been directed towards examining bottom-up innovations within universities and the contribution made by those to university change towards a new mode of knowledge production (Kunda 2014).

Another group of national studies have focused on the current role of tertiary education and the profile of HEI students with specific interest in social and economic conditions of student life (Koroļeva et al. 2013), the role of diverse socioeconomic and demographic factors in the formation and development of higher education attainment (Cunska 2011), as well as in ensuring higher education accessibility (Kaša 2008; Vasiļevska 2014). Researchers have also investigated the dropout trends among tertiary students (Šmitiņa 2011; Paura and Arhipova 2014), the development of integration skills in the multicultural environment of HEIs (Roskoša 2012), the discrimination trends of foreign students (Kārkliņa 2014), as well as private and social returns on education (Spuriņš 2011; Romele 2014). Also the overall efficiency of the national system of higher education has been assessed (Paņina 2011; Aleksejeva 2014).

The main underlying message of these studies conveys the existence of a wide range of problems and challenges faced by HEIs in Latvia, both internally and externally as well as the perceived task and eagerness of national HEIs to raise their profile in order to ensure long-term presence nationally, financial viability, as well as adherence to practices of inclusive and sustainable development. This chapter aims to add on to these studies by providing a complementary insight into the way the emerging policy discourse and university practices incorporate the notion of social inclusiveness and address the social function of higher education and universities in Latvia.

The structure of this chapter is organised in a way to, firstly, outline selected theoretical and conceptual considerations in relation to inclusive development and social innovation and the underlying notion of social inclusion, both more generally and specifically in the domain of higher education.

Secondly, a brief sketch of the position of Latvia with regard to indices of social inequality is provided in order to set the background for analysing the national policy response to the resulting societal challenges. The emphasis here is on the envisaged role of science, technology, innovation, and higher education as laid out in a range of recent medium-term (2014–2020) national policy documents. This section focuses on outlining the national policy context present in Latvia and the way the various key notions (e.g. inclusive growth, social cohesion, social innovation, social entrepreneurship) are interrelated in the national and supranational (European Union) policy discourse.

Thirdly, attention is shifted from the macro-perspective to the meso-level of universities acting as agents of inclusive development and social innovation. The section reviews the mission statements and most recent strategic documents of public universities in Latvia as regards their self-perceived social role. This analysis is then followed up with selected illustrative examples of tangible socially inclusive innovative practices undertaken by individual universities in different domains.

Finally, the concluding section summarises the key findings of the empirical study, relating those to the theoretical concepts analysed in the chapter and the policy implications of the conclusions drawn from the resulting analysis.

Merging the Notions of Inclusive Development and Social Innovation: Theoretical and Conceptual Considerations

The broader topic regarding inclusive development focuses on the efforts made by different actors on various levels to achieve inclusive growth—economic growth and social development that is of value for as wide societal groups as possible (Paunov et al. 2013). More specifically, inclusive development can be defined as "*a process that occurs when social and material benefits are equitably distributed across divides within societies, across income groups, genders, ethnicities, regions, religious groups, and others. These benefits necessarily comprise not only economic and material gains, but enhanced well-being and capabilities as well as social and political empowerment being widely experienced*" (Hickey et al. 2015:5). Thus it represents a comprehensive concept that embodies the values of fairness, non-discrimination, solidarity, democracy, and civic engagement.

Inclusive development, which is primarily aimed at improving the conditions of those not so well situated, frequently marginalised societal groups, often implies stimulation of social innovation. Social innovation is seen as one of the ways to tackle social exclusion and segregation, and meet social needs of different communities (Moulaert et al. 2013). One of the readings of the concept of social innovation attributes it to innovative collaboration models and practices, and novel partnerships between individuals and/or organisations. In the context of inclusive development it implies building stronger links between knowledge and training institutions and organisations in the private and public sectors and calls for the establishment of interactive learning spaces where different kinds of organisations and expertise can meet and exchange ideas (Johnson and Andersen 2012). As noted by Giovany Cajaiba-Santana (2014), one of the distinctive features of social innovation lies in its immaterial structure, since social innovation "*does not come to fore as a technical artefact, but as new social practices that will ultimately become institutionalised*" (p. 43). Thus he brings forward a conceptualisation of social innovation "*as a collective creation of new legitimised social practices aiming at social change*" (Cajaiba-Santana 2014:49), which is sometimes treated by other scholars as a "*paradigm shift in the organisation or delivery of provision*" (Sinclair and Baglioni 2014:471).

Alternatively, a social innovation can be defined as "*a novel solution to a social problem that is more effective, efficient, sustainable, or just than existing solutions and for which the value created accrues primarily to society as a whole rather than private individuals*" (Phills et al. 2008). This reveals a certain discrepancy between ascribing the "social" to the nature of interaction between agents or the goal of a particular innovative undertaking. It is possible, however, also to identify efforts in integrating the two interpretations, whereby social innovations are defined as "*new ideas (products, services, and models) that simultaneously meet social needs (more effectively than alternatives) and create new social relationships or collaborations*"—innovations that are both good for society and enhance society's capacity to act (Murray et al. 2010:3). As argued by Simone Baglioni and Stephen Sonclair

(2014), in the case of social innovation "*the nature of the 'innovation' can be in the content (what action is taken) or the process of provision (how needs are met)*" (p. 409). In a similar vein, Bonifacio (2014) brings forward a view that social innovation entails innovations "*that respond to social demands that are not traditionally addressed by the market or existing institutions and are directed towards the vulnerable groups in society*" and relate "*not only to developing innovative solutions to address social demands, but also to new forms of organisation and interactions to tackle social issues*" (p. 148). Thus boosting the capacity for action of individuals, empowering citizens, and strengthening civil society all constitute an important part of what social innovation is perceived to be about.

Social innovation is primarily aimed at meeting the needs or providing solutions for wider societal groups without an underlying motive of bringing commercial gains as the classical concept of innovation would presume. At the same time this does not rule out a perspective on social innovation as a driving force of successful entrepreneurship, whereby organisations offer business solutions to urgent social and ecological challenges (Osburg and Schmidpeter 2013). Yet, in their efforts to define the concept of social innovation, Eduardo Pol and Simon Ville (2009) urge to make a distinction between social innovation and business innovation, since "*social innovations are not necessarily driven by the profit motive and business innovation need not be social innovations*" (p. 881). According to their definition, social innovation refers to "*any new ideas with the potential to improve either the macro-quality of life or the quantity of life[1]*" (Pol and Ville 2009:882) or, alternatively, "*new ideas improving quality or quantity of life not showing potential profits*" (Pol and Ville 2009:884). They specify the category of "pure social innovations" to refer to the set of social innovations that are not business innovations and address needs that are not satisfied through the market mechanism. As noted by Carlo Borzaga and Riccardo Bodini (2014), the exploration of the dynamics of such pure or "non-profit-seeking" social innovation so far has been lacking investigation of the process that leads to social innovation, on the one hand, and the characteristics of the actors or organisations that carry it out, on the other (p. 416).

With regard to the specific role of HEIs as agents of social innovation scholars point to their closer engagement with society and its needs via certain forms of professional training, partnership, consultancy, and research, thus acting "*as a change agent or catalyst in society by playing an active, direct and constructive role in the identification and resolution of society's practical problems*" (Janiūnaitė and Gudaitytė 2007:224). Through engagement in social innovation universities also demonstrate their potential to contribute to the broader goal of social inclusion with novel solutions being developed in order to increase participation amongst nontraditional, previously excluded groups (Basit and Tomlinson 2012).

Social inclusiveness of higher education is being largely attributed to the accessibility of education, implying that all people irrespective of their origin, age, gender, ethnicity, social class, income, or physical and mental abilities have equal opportunities in obtaining education. The accessibility of education can be viewed

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[1] Life expectancy at birth.

in terms of institutional, financial, legal, physical, and intellectual accessibility or based on such groups of resources as the value system, intellectual potential, financial means, social capital, and territorial conditions (Vasiļevska 2014). The basic underlying assumption is that inclusive higher education serves as a prerequisite of a democratic society to achieve greater equity, social justice, and public participation. The contribution of tertiary education to higher employability and wages, labour productivity, as well as better health, life satisfaction, and civic engagement indices of those having graduated at HEIs is only one of the classically cited economic and social benefits for individuals and society at large.

It has to be acknowledged, however, that the expansion of tertiary education has brought about also some critical questions regarding the actual effects of these developments on social inclusion vs. exclusion (Duru-Bellat et al. 2008) and the potential of higher education to reduce or increase inequalities (Unterhalter and Carpentier 2010), the relationship between education and social cohesion more generally (Green et al. 2006), the frequent abuse of the equity discourse (Archer 2007), the stratification of the tertiary sector into elite and non-elite institutions (Hughes 2015), as well as the necessity of accompanying fiscal and social spending policies aimed at reducing income inequality in order to ensure the equalising effect of the expanding higher education on income distribution (Carnoy 2013). Nevertheless, these considerations do not undermine the importance of the inclusiveness of higher education—an issue that remains high on the agenda in both academic and policy debate.

While frequently equitable access (mass) and quality (elite) are treated as conflicting—conservative vs. liberal—goals of higher education, scholars argue that the underlying notions of access, participation/engagement, and success through empowerment can actually be seen to reflect increasingly embracing degrees of social inclusion, thus offering an integrative approach to social inclusion as a combination of ideologies of neo-liberalism, social justice, and human potential (Gidley et al. 2010). In the framework of this particular study, the specific role of universities in promoting social inclusiveness is treated from two alternative aspects (see Fig. 13.1). On the one hand, it is about social inclusiveness of universities as to ensuring equal access to higher education by all members of society irrespective of their economic and social status, and physical and mental capabilities. On the other hand, social inclusiveness can also be attributed to the way and the level universities respond to the practical needs of diverse societal groups (including marginalised ones) in their research efforts.

This chapter deals with both of these dimensions since they are seen as rather complementary ones, with the "internal" and the "external" inclusion being constitutive of the overall social inclusiveness of universities. One of the underlying assumptions is that wider accessibility of higher education implies the representation of a more diverse spectrum of individuals from various social groups among the pool of students,[2] which, in turn, contributes to the multiplication and awareness-building of alternative perspectives crucial in the identification of topical issues in

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[2]This could also be attributed to the administrative and academic staff at universities; yet this dimension is out of the scope of this study.
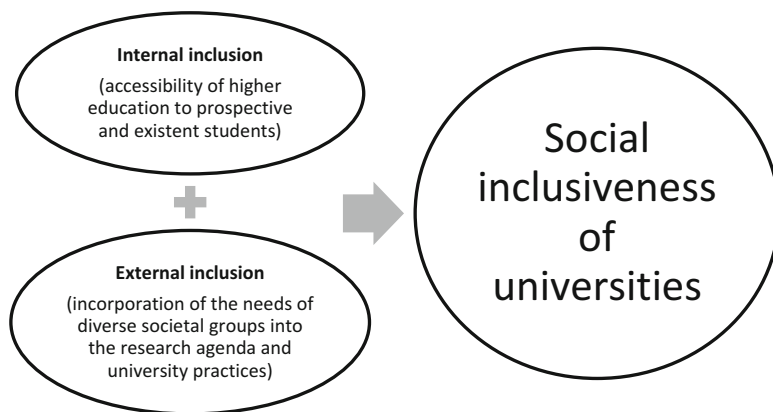
Fig. 13.1   Components of social inclusiveness of universities (*source*: by author)

research and other activities pursued by universities. With reference to the concepts reviewed above social inclusiveness of universities is hereby treated as guided by the idea of inclusive development of society at large, seeing social innovation as one of the embedded instruments for putting this idea into practice.

Prior to the assessment of the social inclusiveness of universities in Latvia and the analysis of university strategies and practices the broader national policy context and the way the different key notions are interrelated in the national and supranational (EU) policy discourse are outlined.

The National and Supranational Policy Discourse of Inclusive Growth and Social Equality: Implications for Higher Education

The notion of inclusive development largely stems from the diverse inequalities present in societies in both developing and more developed countries, with Latvia being no exception to this trend. While the country has been celebrated for being able to successfully overcome the major economic crisis that burst out in 2008 (European Commission 2012), it is nevertheless enlisted among the countries with the highest income inequality in the EU. According to the Gini index, which measures the extent to which the distribution of income among individuals or households within an economy deviates from a perfectly equal distribution, in 2012 Latvia came first among the EU countries with its value of 35.7 against the EU28 average of 30.6[3] (Eurostat 2015a).[4] Moreover, in 2012, Latvia was ranked third with

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[3] Gini index of 0 represents perfect equality, while an index of 100 implies perfect inequality.

[4] Later data show that the index value for Latvia decreased to 35.2 in 2013, but went up to 35.5 again in 2014.

the highest share of persons being at risk of poverty or social exclusion[5] (Bulgaria—49 %, Romania—42 %, Latvia—36 %, EU28—25 %) (Eurostat 2015b). While there has been a gradual positive trend in 2013 (35 %) and 2014 (33 %), these developments do not yet indicate that an acceptable level of social equality has been achieved.

A quantitative study commissioned by the World Bank devoted to exploring poverty and income inequality trends in Latvia in an EU comparison before, during, and after the financial and economic crisis demonstrates that inequality in Latvia increased between 2004 and 2009 and the income of the wealthier groups grew proportionately more than that of those below the poverty threshold (Gasior and Lelkes 2013). The authors argue that changes between 2006 and 2009 indicate the deepening of poverty and increasing polarisation, since differences across social groups in the extent of poverty gap (the depth of poverty) were much smaller in 2006 than in 2009.

Analysts note that, unlike the tax and benefit systems in many economically developed countries, where social security means assistance for people in difficult circumstances and support for the needy, the Latvian system supports its rich more than the poor (Spriņģe 2012). This situation has also led to a notable wave of outward migration of a large part of the economically active population. According to calculations made by the Central Statistical Bureau of Latvia (CSB), between 2000 and 2013 almost 260,000 people have left the country and have not returned (CSB 2014). Thus the impact born by the economic growth of the pre- and post-crisis years on social inequality and its differentiated impact on the well-being of different social groups (not least in terms of regional disparities) are rather pressing ones in Latvia.

The striking inequality among the Latvian population has inevitably entered the national policy discourse, with the ministers of finance and welfare having come up with a declaration made in the beginning of 2013 to make the reduction of social inequality a national priority. As stated by the Minister of Finance of that time, "*it is obvious that on a macroeconomic level we are convincingly moving towards growth, but it is important that this is also experienced by every single inhabitant of Latvia, especially those with lower levels of income and working families with children*" (Ministry of Finance 2013).

Nevertheless, policymakers are being strongly criticised for not taking adequate steps towards eliminating the impoverishment of large groups of society. According to an assessment made by the Council of the European Union (2014), "*the effectiveness of social protection in terms of poverty reduction remains poor and designing an effective social safety net remains a challenge. Overall, a high proportion of the population is at risk of poverty or social exclusion, and even more so for children. Families with children, the unemployed, people with disabilities and people living in rural areas are at a particularly high risk of poverty and social exclusion*" (p. 8).

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[5] It implies being at least in one of the following three conditions: (1) at-risk-of poverty after social transfers, (2) severely materially deprived, (3) living in households with very low work intensity. The relative shares among the Latvian population in 2012 were 19.4, 26.0, and 11.5, respectively.

Also the assessment made by the OECD (2015) observes that Latvia lags behind other OECD countries and regional peers in a number of social and economic dimensions measuring the quality of life and recommends that the limited resources are used in an efficient way to make growth more inclusive and reduce the poverty risk.

It has to be acknowledged that inclusive development has been part of the official national policy discourse already for several years. The *National Development Plan of Latvia for 2014–2020* is built around the vision "Economic breakthrough—for the greater well-being of Latvia" (NDP 2020, 2012), which is largely based on the premise of inclusive, sustainable, and competitive economic development. One of the 12 strategic objectives of the NDP is aimed at ensuring "Advanced research and innovation and higher education". The role of universities (as higher education and research institutions), however, is mainly seen in promoting commercialisation of research results and closer cooperation with industrial sector with an aim of increasing private investment in science and research funding. Namely, the focus is on the transfer of research and innovation to business; yet no mention is made of the role of universities in providing innovative solutions to the public at large—social innovations, which are crucial in ensuring inclusiveness and sustainability of the overall development of the nation. The "social" component briefly emerges only under the envisaged individual measures to be carried out within the above-mentioned strategic objective, represented by the measure "Ensuring access to higher education". The latter was initially echoed also by the draft Partnership Agreement for the European Union Funds Programming Period 2014–2020; yet references to the particular policy measure aimed at ensuring equal accessibility of higher education had been excluded in a more recent version of the document (Ministry of Finance 2014).

One of the action lines brought forward also by the *Guidelines of Research, Technological Development and Innovation* for 2014–2020 elaborated by the Ministry of Education and Science envisages linking science, technology, and innovation with the needs of society and economic development (Cabinet of Ministers 2013). Though brief mention is made of social (and eco) innovations, again the main emphasis is placed on the promotion of entrepreneurship. In comparison, the National Concept on the *Development of Higher Education and Higher Education Institutions* in Latvia for 2013–2020 elaborated by the Council of Higher Education (2013) seems to be a more progressive one regarding the role of civil society. Nevertheless, it is still primarily based on the conventional model of Triple Helix (government-industry-academia) and the notion of "Entrepreneurial University", though with some references being made to the expanded version of the model (including dimensions of creativity, culture, and sustainability). The authors of the concept draw attention to the critical social dimension of higher education in Latvia characterised by one of the deepest social gaps in Europe, inter alia caused by the lack of state budget-funded study places and limited availability of social assistance instruments in the form of different scholarships and student loans. This implies that young people in Latvia whose parents have low or medium level of education are more likely to be left without higher education than their peers in other Baltic countries or Scandinavia (Council of Higher Education 2013).

The very notion of "inclusive education" per se has not been part of the documented policy discourse until the late 2000s with the adoption of the Basic *G*uidelines for the *D*evelopment of *E*ducation for 2007–2013 and has been mostly attributed to education levels prior to tertiary education (Nīmante 2008). The Sustainable *D*evelopment *S*trategy of Latvia until 2030 adopted by the Latvian parliament stresses that "*inequality of income and territorially unequal demographic situation in long-term may create significant obstacles for the provision of equal opportunities and access to education*" (Saeima of the Republic of Latvia 2010:32) emphasising the role of the public sector in levelling out the possibilities of people to acquire education and appropriate qualification. The successive Basic *G*uidelines for the *D*evelopment of *E*ducation for 2014–2020 defines that "*the overarching goal of the education development policy lies in high quality and inclusive education for the development of personality*, *human well-being, and sustainable national growth*" (Ministry of Education and Science 2013:9). This document features already a more pronounced focus on ensuring accessibility of education also at tertiary level, emphasising measures for facilitating the entry of socially less protected groups of the population (incl. persons with disabilities and special education needs). It stresses the role of higher education in contributing to the better employability prospects of these social groups. A rather important role is attributed also to the contribution of HEIs to the advancement of adult, continuing and distance education.

The term "inclusive growth" has entered the national policy discourse in Latvia largely through the supranational goals of the EU, which Latvia is part of since 2004. For instance, "Europe 2020", which sets out a vision of Europe's social market economy for the twenty-first century, puts forward three mutually reinforcing priorities (European Commission 2010): smart growth (developing an economy based on knowledge and innovation); sustainable growth (promoting a more resource-efficient, greener, and more competitive economy); and inclusive growth (fostering a high-employment economy delivering social and territorial cohesion). Along the lines of this vision, in the domain of education the National *R*eform *P*rogramme of Latvia for the *I*mplementation of the "Europe 2020" *S*trategy has defined the goal of ensuring equity in higher education as one of the key policy directions and measures to increase the number of people having acquired tertiary education. The overall declared aim is "*to improve the mechanism for granting scholarships and study and student loans, thus giving a larger number of people an opportunity to study and promoting more targeted choice of study field*" (Cabinet of Ministers 2011:31).

Europeanisation trends are also represented by the involvement of Latvia in the Bologna process, which was initiated in 1999 with an aim to facilitate cooperation in European higher education and develop the European Higher Education Area. Recently an increasing emphasis is being placed in this framework on the social dimension of higher education since "*there are still too many capable individuals who do not participate in higher education for social, cultural or economic reasons or due to insufficient systems of support and guidance*" (Council of the European Union 2013:3). The Council thus invites EU member states to "*adopt national*

objectives which are aimed at increasing the access, participation and completion rates of under-represented and disadvantaged groups in higher education, with a view to progressing towards the Bologna Process goal that the student body entering, participating in and completing higher education at all levels should reflect the diversity of Member States' populations" (Council of the European Union 2013:3). A communiqué of one of the earlier conferences of European ministers responsible for higher education has also stressed the "*importance of higher education in further enhancing research and the importance of research in underpinning higher education for the economic and cultural development of our societies and for social cohesion*" (*Bergen communiqué* 2005:3).

As can be implied, "social cohesion" has become one of the keywords of the supranational policy orientation. According to the definition provided by the OECD, "*a cohesive society works towards the well-being of all its members, fights exclusion and marginalisation, creates a sense of belonging, promotes trust, and offers its members the opportunity of upward mobility*" (OECD 2011:51). Like the notion of inclusive growth, the accompanying concept of social cohesion has also become one of the buzzwords of policymakers in Latvia for over a decade. At the same time the concept of social innovation, which has entered the EU policy thinking already since 2007,[6] highlighted by the European Commission (EC) Social Innovation Report (EC 2011a) and occasionally treated "*as the only way to align the Commission's conservative-liberal policy [..] with the pressing social demands that stem from the 2008 financial crisis*" (Bonifacio 2014:145),[7] has so far seen a rather slow take-up in the national policy discourse in Latvia.[8]

An exception, to some extent, is represented by the notion of social entrepreneurship as one of the modes of social innovation that has gradually entered the policy discourse in Latvia. For instance, the Declaration of the Intended Activities of the Cabinet of Ministers in office in 2014 envisaged elaboration of the concept on the opportunities to introduce social entrepreneurship in Latvia, aimed at assessing the alternatives for the development of inclusive social entrepreneurship and offering support for the development of social entrepreneurship by separating it from other types of activities (Cabinet of Ministers 2014). The concept has been approved by the government in October 2014, and in 2015 work on a new policy initiative in the form of a pilot project of a funding programme for 2016–2018 under the guidance of the Ministry of Welfare was underway. The specific activity shall be aimed at identifying and testing optimal solutions for the creation and development of social

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[6] See the portal of the "Social Innovation Europe" initiative funded by the European Commission's DG Enterprise and Industry at https://webgate.ec.europa.eu/socialinnovationeurope/.

[7] The link between the upsurge of the notion of social innovation in the policy debate and the onset of the economic crisis has been noted also by Borzaga and Bodini (2014).

[8] A search for a keyword "social innovation" (in Latvian) in the portal of legislative acts adopted in Latvia (www.likumi.lv, accessed on 17.07.2014) retrieved only two entries, both pertaining to the Partnership agreement for the programming period 2014–2020 of the European Investment funds (adopted by the Cabinet of Ministers on 19 June 2014), which are related to the implementation of the "Europe 2020" strategy. As of 1 January 2014, Latvia has been granted access also to the EU Programme for employment and social innovation for 2014–2020.

enterprises, simultaneously increasing employment opportunities, for the more severely disadvantaged persons in particular. This initiative is also expected to eventually result in a special national law on social entrepreneurship.

It should be noted that this development can also be largely treated in the light of the EU policy, since, based on the above-mentioned vision of inclusive growth, the EC has also brought the concept of social entrepreneurship on the agenda (EC 2011b), inter alia emphasising the role of social innovation as a means for finding new solutions to societal problems, in particular the fight against poverty and exclusion. Yet, the entrepreneurial, business-oriented focus of this policy discourse largely excludes universities from the scope of direct agents in this domain. It is more likely that HEIs can rather be treated as nurturers of individuals and start-ups (e.g. through training, student business incubators) that could bring further the idea of social enterprise in their careers before or after graduation or as collaboration partners for established social enterprises. Yet, as noted in a study covering the Baltic Sea region, which does enlist HEIs and research organisations among the key stakeholders in the domain of social entrepreneurship, presently there is a lack of systematic educational support for social entrepreneurship at HEIs in Latvia with limited availability of courses on this topic (Lukjanska 2015). A national study on social entrepreneurship in Latvia also concludes that presently those business companies and NGOs that can be classified as social enterprises mainly tackle employment problems; the authors call for a broader perspective of extending and promoting these activities also to the domains of health, education, employment, integration, etc. (Lešinska et al. 2012).

On the whole, it can be argued that both national and supranational policy discourse characterising the kind of political reasoning evolving in Latvia does address the topical issues of inclusive growth and social inclusion that stem from the need to tackle the problems of social inequality in the country. Yet, the social role and potential contribution of higher education as both an arena and an instrument of social inclusion, not least by means of various forms of social innovation, so far seem to be underrepresented in the national policy documents.

The following section offers an assessment of the present state of the art of the social inclusiveness of HEIs in Latvia, based on both primary and secondary data, with a particular focus on public universities, in order to identify their potential, challenges, and responses with regard to the promotion of internal and external inclusion.

Assessing Social Inclusiveness of Universities in Latvia: Words and Deeds

Selected Indices of the Social Dimension of Higher Education in Latvia

One of the proxy indicators of social inclusiveness of higher education in a given country, as pertaining to the category of internal inclusion, is that of the overall enrolment rate in HEIs. A regional study on education in Central and Eastern Europe

and the Commonwealth of Independent States (CEE/CIS) has ranked Latvia among the countries in the region with enrolment rates in higher education above 55 % (UNICEF 2007). Given the observed trend of massification or even universalisation in the development of the national system of higher education over the last decades, it is even being argued that "*acquiring higher education is seen more and more as an obligation rather than right*" (Cunska 2011:12). Diploma of tertiary education has thus become a social norm and an important indication of the social status of an individual in Latvia (Vasiļevska 2014). Over the recent years, however, there has been a gradual decrease in the absolute number of students in tertiary education in Latvia from 131,000 in 2004 to 89,000 in 2013 (Ministry of Education and Science (henceforth—MoES) 2014). But the latter trend largely reflects the demographic situation related to population projections (population ageing, economic emigration) characterised by an even further reduction in the number of high school leavers rather than increasing restrictions on access to higher education.[9]

As shown by the Global Higher Education Rankings 2010, Latvia also demonstrates an average ranking (8th out of 15)[10] in terms of the affordability of higher education based on the calculation of costs divided by the ability of individuals to pay them (Usher and Medow 2010). Yet, several studies point to important problems with regard to the financial aid to those willing to pursue tertiary education, not least based on the large share of students paying for their studies.[11] A study on the modernisation of higher education in Europe in respect to funding and social dimension, conducted in 2011, notes that in 2000–2007 Latvia has been the country with the most dramatic fall in the percentage share of financial aid to students (grants and/or loans) in total public expenditure at tertiary level of education (from 24.9 to 5.1 %), which is of particular importance given the fact that it was further followed by "*the most severe higher education budget cuts as a consequence of the financial and economic crisis*" (Eurydice 2011:57). The study had also enlisted Latvia among the few countries that hadn't reflected the goal of increasing and widening participation in higher education in the respective policy.

The analysis of the accessibility of higher education in Latvia in the mid-2000s demonstrated that under the given system of student funding it was not possible to speak of an equal access to higher education for students from different income groups of the population, emphasising the need to reform the policy of student subsidisation to incorporate also the socio-economic profile of a student (along with that of academic excellence) in the set of defined criteria (Kaša 2008). While there was a 2-year period (2009–2010) when, given the impact of the economic crisis, amendments to the regulations governing the allocation of state budget-funded scholarships for HEI students in force since 2004 were made in Latvia to favour

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[9] A significant drop by 18–38 % in the number of students in tertiary education in 2020, if compared to that in the early 2000s, is being projected (Cunska 2012).

[10] Australia, Canada, Denmark, England and Wales, Finland, France, Germany, Japan, Latvia, Mexico, the Netherlands, New Zealand, Norway, Sweden, and the USA.

[11] In 2013/2014, 39 % of all tertiary students in Latvia had their studies funded from the state budget, while the majority (61 %) were paying a tuition fee (MoES 2014).

social criteria over academic ones, the present system again rests on the prevalence of academic achievements and scientific excellence leaving the social condition of the applicant (e.g. disability, poorness, orphanage, parenthood) as a secondary consideration eligible only in case of equal achievement.

Therefore analysts continue to emphasise that public grants for students in Latvia are allocated mainly on the basis of academic merit, with more need-based criteria only gradually starting to be taken into account (Eurydice 2011). The present system of higher education financing, guided by the merit-based approach to budget places and grants and mostly benefiting students from better socio-economic backgrounds, thus raises questions about equity (World Bank 2014a). The deep social gap present in higher education in Latvia tends to reproduce the selectiveness of higher education system, whereby higher education is more accessible to children with higher than average social background as measured both by the education and occupation of their parents (Cunska 2011; Koroļeva et al. 2013; Vasiļevska 2014). As recommended by the experts of the World Bank, "*student financial support programs should be available to students in need, either as a way to complement or replace the funding available to the most academically prepared talented students*" (World Bank 2014b:29). Nevertheless, despite the articulation of the differing interpretations of the rationale behind the provision of public financial support for tertiary students as an instrument for providing social guarantees, on the one hand, and for motivating and supporting the most capable students, on the other, the mainstream discourse in Latvia remains to be based on excellence and merit as the governing principle in higher education.

Research also demonstrates that alongside the material factor, an even more important determinant limiting the accessibility of higher education in Latvia is represented by the territorial factor (Vasiļevska 2014). The prevalence of territorial inequality in respect to internal inclusion in the field of higher education (that builds on more limited opportunities already at earlier levels of education) thus challenges the conventional assumption that accessibility of higher education should primarily be attributed to socially disadvantaged groups such as families with low level of income, single-parent or large families, disabled persons, etc. (Vasiļevska 2014). It is also acknowledged that a high degree of segregation of students' achievements according to the urbanisation factor can be observed, with educational achievements of students who come from the economically more developed areas in Latvia being significantly higher than of those who come from less developed geographical units (Geske et al. 2006). The urban-rural divide with regard to the preconditions of entering and successfully pursuing one's studies at HEI thereby adds to the existing divides based on the level of income and physical abilities. The expansion of HEIs outside the capital in Latvia is clearly a positive indication in this respect, since they provide the opportunity to obtain tertiary education to people for whom doing so would otherwise require moving to a capital area. The share of local students that are enrolled in the non-capital universities is 50–80 % and they tend to remain in regional areas for both further study and employment (Association of the universities of Latvia 2012). Nevertheless, the presence of regional HEIs in selected cities outside the capital does not by itself

rule out the topicality of the territorial factor in the overall accessibility of higher education.

Another indication of the internal social inclusiveness of HEIs is represented by the level of student dropouts. National studies demonstrate that around one-fifth of all enrolled students in Latvia do not finalise their studies pointing to low secondary school knowledge and motivation of students (Paura and Arhipova 2014) as well as lack of efficient and comprehensive student support (incl. academic, psychological, career, and managerial consultancy) (Šmitiņa 2011). Namely, the internal inclusion does not merely pertain to the various dimensions of the accessibility of higher education at the stage of entering an HEI, but also to the various potential obstacles throughout the study process that inhibit the already enrolled students from success-fully pursuing and accomplishing their studies (e.g. lack of personal or professional motivation, insufficient financial means, dissatisfaction with the study process and contents).

The external inclusion of HEIs, which, in turn, applies to the incorporation of the needs of diverse societal groups into the research agenda and university practices, demonstrates yet another component of the social dimension and inclusiveness of higher education. To some extent it is indicative of the broader science-society rela-tions, which apply also to various forms of public engagement in research (Ādamsone-Fiskoviča 2012). A comprehensive international study on the trends and patterns related to science in society in Europe has clustered Latvia into the group of countries with a developing science communication culture—still on their way towards the model of consolidated science communication culture as present primarily in West European and Scandinavian countries with stronger traditions of dialogical, rather than one-way, science communication (Mejlgaard et al. 2012). The interdisciplinary study on the role of HEIs in the regional development of Latvia and their collaboration with a diverse spectrum of social agents representing public administration, entrepreneurship, and civil society also revealed that there is still room for ensuring a more systematic character and institutionalised forms of the existing cooperation models as well as developing strategic and innovative cooperation solutions with economic and social partners in knowledge transfer and utilisation of research potential of HEIs (Tisenkopfs and Bela 2011). The authors of the study recommend regional universities to emphasise their competencies and knowledge in providing solutions to tasks of public good, to make their research applicable to solving social and community problems.

As argued in the conceptual framework of this chapter, the domains of both inter-nal and external inclusion by HEIs bear the potential for social innovation as a means for finding and coming up with novel and innovative ways for solving diverse societal problems either within or outside the walls of HEIs. In assessing the overall capacity for social innovation demonstrated by public universities, some useful insights can be gained from research on innovation in public sector. Though it has been focused more on public administration, it identifies three main drivers of pub-lic sector innovation: political ambition, public demand (including business and third sector), and tightening resources (León et al. 2012). At the same time research-ers have noted that there is a range of structural constraints that can be faced by

public sector organisations in their efforts of being socially innovative given the level of standardisation of internal procedures and the overall orientation towards the median citizen rather than minorities and marginalised societal groups (Borzaga and Bodini 2014). It has also been argued that for "countries in transition", Latvia being among those, one can see a certain tension between a strong need for innovation and a tendency to conservatism in action (Janiūnaitė and Gudaitytė 2007). As revealed by the study on the advancement of internal (organisational) bottom-up innovations identified in selected universities in Latvia, these tend to be predominantly incremental rather than radical ones and require application of a range of more or less complex legitimation strategies on the part of innovators in order to align new practices with the norms of the academic community and holders of formal power within the organisation (Kunda 2014).

As can be implied from the preceding analysis of the present policy discourse and studies available so far on different aspects of social inclusiveness of HEIs in Latvia, the social dimension of higher education represents an issue that requires further attention. While the national legislation, represented by the law on HEIs (Saeima of the Republic of Latvia 1995),[12] does not explicitly stipulate that HEIs, incl. public universities, are obliged to promote the accessibility of higher education and contribute to tackling urgent societal problems (including those of marginalised social groups), it still implies a certain level of public accountability by HEIs. Yet, it is within their autonomy to freely select the ways and forms for the implementation of the tasks set forth by the binding legal acts and the founders of the individual HEIs. In the remaining part of the chapter, based on document analysis and expert interviews,[13] both the formal discourse and the exemplary practices of selected universities in Latvia are thus inspected to reveal the ways their social role is being constructed, communicated, and implemented.

Social Inclusiveness of Universities: Formal Discourse

Turning from the macro-perspective of the national policy discourse to the meso-level of universities acting as agents of internal and external social inclusion, this section reviews the mission statements and most recent strategic documents of public universities in Latvia as regards their self-perceived social role. The primary aim here is to identify general (both common and divergent) trends among public

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[12] "*Institutions of higher education shall organise their activities in the <u>interests of society</u> , as well as inform society about their operations and the directions and possibilities of studies and scientific research by promoting the selection of study and scientific research according to the interests and abilities of the individual. They <u>shall offer to society</u> their scientific, artistic and professional findings and the methods and results of research*" [emphasis added].

[13] In total, ten interviews with experts representing individual universities as well as several non-governmental organisations were conducted in January–May 2015.

universities in terms of their rhetoric (or lack of it) on social inclusiveness rather than to make an in-depth assessment of individual HEIs.

In the framework of this study the current medium-term development strategies of all six public universities in Latvia[14] have been analysed, namely:

– Development Strategy of the Liepaja University (LiepU) for 2008–2018
– University of Latvia (UL) Strategic Plan for 2010–2020
– Development Strategy of the Daugavpils University (DU) for 2009–2016
– Latvia University of Agriculture (LUA) Strategic Development Plan for 2010–2016
– Development Concept of the Riga Stradins University (RSU) for 2013–2017
– Riga Technical University (RTU) Strategy for 2014–2020

When it comes to the formal strategies, the first bold observation shows that none of these documents incorporates the notion of "social innovation" in a straightforward way, with an exception of the Strategic Plan of the University of Latvia, which makes reference to social innovation (along with economic and organisational innovation) as one of the priorities of the UL research fields.

As for "social inclusion", it is rather the notion of **social accountability** that seems to be more common, though also mostly used in a disguised manner. An exception is the Riga Stradins University, which is specialising in healthcare and which explicitly defines a target to become a socially responsible university. As stated in its Development Concept, "*social responsibility is being reached with active involvement of the university in providing solutions to various topical societal issues by means of granting public access to the knowledge and skills of its academic staff and students*". Though without any further explication, in the given context this statement signifies the determination to promote external social inclusion by means of directing university's study and research efforts towards meeting also the practical needs of the local population of Latvia. Also the overall aim for research activities undertaken by RSU states that "*the science profile of RSU is being achieved by concentrating resources for the implementation of excellent scientific studies in medicine and social sciences, conformable with the needs and problems of the given period and society and aimed at the improvement of the overall quality of life and welfare of the society and its members*". The latter point brings this statement rather close to the theoretical notion of social innovation as discussed earlier, which implies development and implementation of new ideas and practices that aim to improve the quality of life without an explicit profit motive.

The **quality of life** aspect has been taken up also by the Development Strategy of the Daugavpils University, which places an emphasis on the sense of belonging to the region (Eastern Latvia) among its guiding values, implying that university's efforts are more generally directed at making its contribution to boosting the quality of life of its inhabitants. Likewise, the aim defined by the Strategic Plan of the

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[14] In 2013/2014, there were altogether 61 HEI in Latvia, incl. 25 colleges (MoES 2014). Three out of the six public universities are located in the capital city Riga, while the other three are located in regional centres.

University of Latvia inter alia states that "*the knowledge transfer promotes the competitiveness of Latvia's national economy and improves the society's quality of life*".

On the whole, the strategy documents of public universities primarily emphasise their mission to contribute to **sustainable regional and/or national economic as well as intellectual and cultural development of the country**, with a focus on training well-qualified specialists and undertaking high-quality academic research (see also Table 13.1). Several of the strategies refer to the aspiration of universities to serve the society and meet its needs in various ways.

Table 13.1 Mission statements of public universities in Latvia

University	Mission
Daugavpils University	*To promote the development of a sustainable future society by means of carrying out world-class scientific research and ensuring high-quality education in the fields of natural sciences, engineering, education, health, humanities, and social sciences, and, through its activities, facilitating sustainable development of the Latgale region and the whole of Latvia*
Latvia University of Agriculture	*To develop the intellectual potential for sustainable future of Latvia and rural areas in particular*
Liepaja University	*LiepU is a symbol of education, science, and culture of Liepaja and the Kurzeme region that provides competitive, internationally recognised varied education, develops innovative research, ensures sustainable development of the society, and development of knowledge economy in Latvia as a lawful partner in the community of European countries*
Riga Technical University	*To ensure internationally competitive high-quality scientific research, tertiary education, technology transfer, and innovation for Latvian national economy and the society*
Riga Stradins University	*Education of high-quality specialists in the field of healthcare and social sciences for the European and world society, so the knowledge, skills, competencies, and attitude obtained within the study process would comply with the highest requirements of the EU and human traditions and form stable base for the lifelong education*
University of Latvia	*The UL promotes the development of the society and state; it guarantees its students the possibility to obtain qualitative higher education and professional skills, as well as to develop through research and artistic creative activities. The UL is an active participant in the international academic life, and it fosters cultural ties, cooperation in research, and applicability of knowledge. The achievements of the UL are formed by the minds, talents, and work of its faculty and students. The UL cares for the development of the professional and creative skills of its students and faculty, combining studies with research, classical university traditions with dynamic development, serving the society and carrying Latvia's image in the world. The UL promotes the development of the Latvian language and its full-fledged functioning at all levels. It studies and maintains the Latvian cultural traditions, and supports the development of terminology in the Latvian language. The UL prepares teaching staff for other universities and general schools, as well as specialists for the country's administration and municipalities. The UL maintains and shapes collections of national significance*

Source: By author

The **promotion of innovation** is an almost indispensable element in all the strategies, yet for the most part with a clear emphasis on the commercially viable innovative solutions rather than social innovations. Though general efforts in promoting conventional business incubation at universities represent an emerging trend, the goal of facilitation of social entrepreneurship at universities amongst staff and students is presently hard to identify in the strategy documents. At the same time the above-mentioned Development Strategy of the Daugavpils University recognises the necessity to promote research cooperation not only with high-tech business companies, but also to ensure the "*openness of science to any kind of public demand for innovation in any sector of the economy*". Consultancy can be seen as one of the perceived modes of external inclusion pursued by universities, including collaboration with local municipalities, professional organisations, and entrepreneurs. Nevertheless, references to the external inclusion by universities in the domain of research regarding the public at large are mostly limited to raising the awareness and understanding of science (popularisation of science), with almost no references to more active citizen engagement in research and the agenda-setting thereof.

As for internal social inclusion, a common element in the strategic visions of almost all the analysed universities has to do with the usage of one or several of the following concepts: "continuing education", "lifelong learning", and "distance education". It has to be noted that all six universities have become involved in the Latvian Association of Higher Education Institutions for **L**ifelong **L**earning founded in 2014, with this fact serving as a vivid indication of the growing importance of this domain in the spectrum of activities pursued by universities in Latvia. All public universities in Latvia have a dedicated structural unit (centre or department) dealing with one or several of these services, offering a variety of adult learning courses and thus contributing to widening internal inclusiveness of HEIs. These trends are somewhat interrelated with the notion of "open university" (based on open entry policy and distance learning as the main method of instruction), which is also becoming an increasingly used concept in the domain of higher education of Latvia. Though used as part of the conventional study process, also the practice of ensuring e-studies is being positioned as one of the means of facilitating the accessibility of study programmes along the advancement of the quality of studies.

In the case of the official strategic vision of the Liepaja University it is the lifelong learning that links the activities pursued by the university to the promotion of social inclusion. Its Development Strategy states that "*the lifelong learning policy of the university is oriented towards meeting the individual's interests and needs related to the capacity of taking the initiative, employability, active citizenship, and social inclusiveness*". The promotion of continuing and lifelong learning is seen as a means for providing equal opportunities and broadening the present scope and profile of HEI students to include also individuals of socially disadvantaged groups, as demonstrated by the quote from the Development Strategy of the Daugavpils University, which draws attention to the fact that "*most universities tend to offer the same courses to the same group of academically best qualified young students and exclude other forms of training and kinds of trainees as, for instance, postgraduate retraining courses for adults*". At the same time it is recognised that in the existing

practice, more efforts are needed to address the continuing education needs of wider societal groups based on broader public demand, moving beyond the specific professional groups of teachers, etc.

The University of Latvia, in turn, sees lifelong learning and continuing education as a means for ensuring "*broad public accessibility to studies*", which can be interpreted as a synonym for internal social inclusiveness of higher education. Nevertheless, the UL strategy documents simultaneously acknowledge that the promotion of the field of lifelong learning (and knowledge-intensive services) serves as a means to compensate for the reduced state budget funding for HEIs. Overall, the clash of the underlying motivating factors of various initiatives is quite indicative of the overall dilemma in the higher education sector in Latvia between the fulfilment of a certain social mission and orientation towards the needs of the public at large, and the need to find alternative financial means by HEIs under conditions of comparatively limited state support. It can be argued that in many instances the official statements tend to mask the survival strategies of universities with concepts that bring to the forefront the public good, which, of course, is also present, but frequently as a by-product rather than the primary goal of these undertakings.

One can also observe the translation of activities initially pursued with a clear aim of attracting additional resources to universities into the discourse of social value being attached to those. This can be exemplified, for instance, by the increasing efforts made by HEIs in Latvia in attracting **foreign students**,[15] which has become of a particular importance with the gloomy demographic prospects regarding the decreasing number of local students in the coming years. The Development Concept elaborated by the Riga Stradins University, which takes the lead among the public universities in Latvia in the number of foreign students, features a statement that "*the considerable share of foreign students facilitates the development of a multicultural environment, encourages the financial independence of the RSU, as well as contributes to the international recognisability of the university, Riga, and Latvia*". The emphasis inter alia placed on the broader social benefits brought along with the presence of people of different racial and ethnic backgrounds within the university milieu and in society at large demonstrates the way a profit-led initiative can also be expected to have positive spill-over effects in the broader social context of inclusiveness. Though with reference to local students and academic staff, the presence of a multi-ethnic milieu can also be seen as a strength, as in the case of the Daugavpils University. At the same time it should be noted that a national study has revealed the presence of negative discrimination trends at HEIs towards foreign students as perceived by both local and foreign students studying in Latvia, inter alia drawing attention to the need for targeted measures in promoting community building and other integration-oriented activities at HEIs (Kārkliņa 2014).

Another factor of social differentiation in terms of internal social inclusion that is gradually entering the official agenda of individual universities is that of **functional**

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[15] The share of foreign students at HEIs in Latvia has increased from 1 % in 2004/2005 to 5 % in 2013/2014 (MoES 2014).

disorders of students.[16] The strategies of both the Riga Technical University and the Latvia University of Agriculture, for instance, recognise their weakness in relation to the presently limited access to infrastructure for students with reduced mobility. Likewise the Development Strategy of the Liepaja University acknowledges the necessity to prioritise the adaptation of buildings and facilities for people with special needs in order to ensure unhindered access to the study process. Yet, several of the interviewed experts acknowledge the overall improvements in the physical accessibility of HEIs over the last decade, not least facilitated by the binding EU regulations defining requirements for new and renovated buildings in any sector of the economy. At the same time issues of accessibility for people with hearing, sight, or mental disorders, requiring not only physical but also pedagogical adjustments, are presently addressed in a rather unsystematic way at HEIs, based on individual ad hoc situations, and have not yet been explicitly taken up by the analysed official strategy documents of universities. A brief mention of students with sight and hearing impairments with regard to the possibilities for ensuring accessibility of higher education is only made in the Development Strategy of the Daugavpils University.

The same can be said about the **gender factor**, which has not entered the mainstream discourse of social inclusiveness of universities in Latvia. Yet, this can be explained by the persistent prevalence of women (around 60 %) among the pool of students. The only exception is the brief mention of this factor in the long-term vision presented in the Development Strategy of the Daugavpils University, which enlists "equal opportunities and diversity" among the key values guiding its activities, implying the "*lack of discrimination based on nationality, race, religious beliefs, gender or any other attributes*". In a similar vein the Strategic Plan of the University of Latvia states that it is guided by the values of "*openness and respect for diversity (ethnic, gender, physical capability, etc.), promoting equal opportunities for every member of the UL community*".

It is, however, more surprising that none of the analysed strategy documents feature explicit references to the **age factor** in the context of internal inclusion, given the fact that demographic prospects have brought age-related considerations into the national debate on accessibility of higher education. Some of the interviewed experts pointed to selected indications towards the development of initiatives aimed at bringing also older students to universities given the reducing pool of high-school leavers in Latvia. Simultaneously they noted the presence of certain stigmatising attitudes regarding adult undergraduate students at universities as well as the predominance of the conventional approach held by public officials that tends to classify students as young people. It seems that age as a factor presently takes a more central role in the context of the above-mentioned lifelong learning as a mode of adult education throughout one's lifetime rather than a definite period of time in one's youth.

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[16] In 2007–2013, a special national programme funded from the EU Structural Funds was devoted to the modernisation of the premises and facilities of HEIs for the purpose of improving the quality of study programmes, inter alia aimed at ensuring accessibility of educational programmes also by persons with functional disabilities.

A peculiar issue regarding the internal social inclusiveness of universities in Latvia has to do with the **language** as a potentially discriminating factor. Though it is addressed in almost none of the above-mentioned strategic documents of the six universities, it represents an issue that tends to pop up now and then in public debates regarding higher education. This is a sensitive topic in Latvia given the large share of Russian-speaking population in the country (Latvians make up only around 60 % of the whole population) and the efforts on the political level to ensure the maintenance of the Latvian language as the sole national language and the main language of communication in the public sphere. Research, however, shows that in the light of the reform carried out in 2004 in secondary education regarding the introduction of bilingual education, the conduct of the Latvian language by school leavers graduating from minority schools is sufficient enough for pursuing studies at HEIs in Latvia and allows for their active participation in the social and economic life of the country (Kļava et al. 2010). At the same time a parallel debate has been taking place with regard to widening the usage of English (along with other official languages of the EU countries) as a study language that so far has been inhibited by the national legislation. Though certain developments have been taking place in this respect, the recommendation of the Council of the EU made in 2014 still concludes that "*despite an originally ambitious plan to reform higher education, [..] restrictions on the use of foreign languages remain unchanged*" (p. 3). It can be assumed that the language factor per se does not figure in the analysed strategy documents due to the nationally binding legal provisions that limit the possibilities for any specific arrangements by individual HEIs. An exception is the SWOT analysis in the Strategic Development Plan of the Latvia University of Agriculture, which mentions the insufficient number and possibilities for offering study courses in English (and the resulting constraints in attracting foreign students) among the present weaknesses, and sees the differing state policy regarding the Russian language use in the study process in private and public HEIs as a treat to the university's competitiveness.

Last but not least, as for internal inclusion or widening access to higher education, the group of people with low income as prospective students are also not directly referred to by the key strategic documents of universities. Here mention could only be made of the group of unemployed people, which has been highlighted by the Development Strategy of the Daugavpils University in respect of its aim of establishing selected study programmes for unemployed with initial higher education. Otherwise the **income factor** is somewhat implicitly addressed by the mission statements of several university funds that have been established at public universities. Thus, for instance, the vision of the Fund of the University of Latvia states that "*each personality with talent, thirst for knowledge and <u>insufficient material provision</u> in Latvia directly related to education, science and culture has an opportunity to obtain internationally recognised higher education <u>irrespective of his social or material status</u> and implement projects that create new intellectual values applicable in the development of science, society, and economy*"[17] [emphasis added]. In a similar vein, the Fund of the Riga Stradins University states that it aims to "*promote tthe development of higher eductaion and research activities and support studies of the <u>deprived and socially disadvantaged young people</u> as well as*

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[17] See http://www.fonds.lv/par/ (in Latvian).

different activities promoting education, science, culture, health, and sports"[18] [emphasis added]. The University of Daugavpils has a special social assistance programme for students that primarily targets successful full-time students with stringent social and material conditions. Special scholarships are also granted by the Development Fund of the Latvia University of Agriculture. Such funds mainly provide these scholarships from resources granted by donors (individuals and companies in Latvia and abroad) or from income from certain activities pursued by universities, based on the principles of philanthropy. This instrument aims to mitigate the income factor as one of the main barriers with regard to the accessibility of higher education in Latvia; yet it is much too limited in scope to tackle the underlying problem entirely. As noted by experts, the income factor can determine a considerable bias in the selection of the preferable study programme by those students who, due to economic reasons, are guided primarily by the availability of state-funded study places rather than their personal interest in making their choice, which, in turn, can bear a negative effect on the dropout rates at later stages of the study process.

Overall, the reviewed strategy documents reveal that social inclusiveness—both internal and external—is not among the key issues that are formally prioritised by universities in their visions of medium-term development. With a few exceptions, in most cases the traditional factors of social differentiation present in modern societies, namely those based on gender, age, race, ethnicity, language, income, disabilities, etc., are not explicitly and extensively addressed by the analysed development strategies. Instead, it is more common to use more general attributes of the public at large when making certain implicit references to the social role of universities without specifically marking out concrete target segments or marginalised/disadvantaged groups within society. At the same time it cannot be argued that university strategies altogether ignore the idea of social inclusiveness since quite a few things described in the preceding analysis demonstrate that selected aspects of this issue, though to varying degrees, find at least some reflection in the analysed texts. Also the genre-specific nature of this kind of documents should be taken into account, whereby the strategic visions usually tend to focus on rather broad categories and ideas and are highly declarative. The differing length and the corresponding degree of detail of the analysed documents should also be noted. Nevertheless, it is believed that, alongside other sources, these strategies still represent a certain indication of the overall perception of the specific tasks and roles of HEIs in the given social milieu and in the broader official agenda of the goals pursued by universities.

Social Inclusiveness of Universities: Practices

Unlike some exemplary international practices of structural units at universities specifically devoted to dealing with development of social innovation as featured, for instance, by the Centre for Social innovation at the Stanford Graduate School of Business in the USA (established in 1999), the Bertha Centre for Social Innovation

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[18] See http://www.rsu.lv/par-rsu/rsu-fonds (in Latvian).

and Entrepreneurship at the University of Cape Town Graduate School of Business in South Africa (2011), or the Lund University Social Innovation Centre in Sweden (2012), there are no such units currently present at the public universities in Latvia. Nevertheless, such a lack of explicitly institutionalised forms of social innovation-related activities does not automatically imply that there are no socially inclusive practices altogether.

If we treat social innovation as new ideas meeting social needs and creating new relationships or collaboration, we can identify a range of practical examples of initiatives developed by individual universities in Latvia. Based on document analysis and expert interviews conducted in the framework of this study, henceforth nine selected cases from different public universities of Latvia are described, providing a brief description of each particular practice as implemented by a specific university, as well as adding a brief note on the presence of similar practices in other universities, where applicable. At the outset it should to be noted that the selected cases serve as randomly identified practices without stating their exclusivity in the domain of higher education in Latvia or elsewhere. These should neither be treated as an exhaustive list of innovative inclusive practices undertaken by universities in Latvia but rather as a set of concrete examples where different aspects of social inclusiveness—both internal and external—can be illustrated and highlighted.

Free Legal Counselling by the Centre of Legal Practice and Advice (Legal Clinic) at the University of Latvia

Already since 1999, with an initial support provided by the Soros Foundation-Latvia, the Faculty of Law at the University of Latvia has been offering free legal counselling for people with low income on issues regarding employment rights, housing, and maintenance payments. These activities are managed by the Centre of Legal Practice and Advice that has been formed based on the model of legal clinics established in the USA back in the 1960s. This practice is organised as an optional study course as part of the study process in training master students in law with the primary aim to ensure practice opportunities for students of actual work with clients under the guidance of experienced practicing lawyers provided free of charge. The practice is preceded by introductory and specialised lectures that are aimed to equip students with the necessary basic knowledge on legal, psychological, planning, and other aspects of this work.

Though the primary mission of this incentive is the provision of a novel mode of training, it brings along the social mission of addressing and helping to solve problems critical for those individuals that do not possess the necessary financial means for this kind of legal procedures. While initially it met certain resistance from the university leadership given the lack of similar former experience in Latvia, it turned out to be a valuable service, appreciated by both students and clients. Though at the outset support was provided for the establishment of such legal clinics also at other HEIs in Latvia, the UL Centre of Legal Practice and Advice is presently the

only one that has maintained this practice ensuring its conformity with the established international standards and principles.

This practice serves as a good illustration of one of the possible modes of external inclusiveness of universities. Alongside representing an internal organisational innovation, it also demonstrates clear traits of pure social innovation given the underlying social need, the non-profit-seeking motivation, and the development of new relations between the university and selected marginalised groups in society.

Innovative Approaches to Distance Learning by the Distance Education Study Centre at the Riga Technical University

The Distance Education Study Centre was founded at the Riga Technical University in 1997, again with the help of international donors, namely in the framework of the PHARE[19] Multi-Country Cooperation project in Distance Education. As of 2014, the Centre operates as a structural unit of the newly established RTU Faculty of E-Learning Technologies and Humanities. Activities of the Centre are primarily aimed at developing lifelong learning and distance education in Latvia and to study e-Content/e-Learning-related knowledge society technologies. Some of the research and development projects carried out by the Centre include the development of multimedia e-Course for open distance learning with audio, video, and interactive technologies, research into learners' satisfaction, as well as their behaviour using open public courseware, etc. The Centre has also been involved in regional development projects on inclusive and innovative applications of e-learning, and in the development of innovative lifelong learning approaches. It has been presented with the BOLDIC Award 2013 for the innovative work done during Ebig3 project—an innovative project of open and distance learning using not only traditional Internet-based systems, but also TV and mobile technologies.

Distance education can hereby be treated not merely as a technical matter, but also as a social innovation that pertains to the efficiency of the education process, not least with regard to the accessibility of higher education in the regions and peripheral areas (Vasiļevska 2014). In line with the concept pursued by the Centre, distance education is attributed to open flexible learning that is made accessible in the form of separate study courses to people irrespective of their age, education, employment, or place of residence, ensuring that the person can study in a place, time, and tempo suitable for the particular individual. Distance education also opens an opportunity of studies to those adults who haven't had a chance to obtain education at different levels due to work, family conditions, disability, imprisonment, etc. Thus this social innovation allows for increased internal inclusion through widening access to and participation in education and training for broader societal groups.

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[19] One of the pre-accession instruments (programme) financed by the European Union to assist the applicant countries of Central and Eastern Europe in their preparations for joining the EU.

While many other HEIs treat distance education as a potential source of additional income, the Distance Education Study Centre puts the main emphasis on the long-term benefits of increased accessibility of education and development of knowledge and skills of the users without an underlying profit motive as a key driver.

"Health Express" of the Riga Stradins University

In 2013, the medical students at the Riga Stradins University came up with an initiative to organise on-board practical activities for passengers on national inter-city trains (e.g. Riga-Rezekne, Riga-Tukums, Riga-Aizkraukle), providing an opportunity to chat with the becoming health specialists and doctors on topics related to healthy lifestyle and receive practical recommendations. During the "Health express" trips passengers have the possibility to measure their blood pressure, define their body mass index, as well as fill out different tests on their state of health. Under the same slogan similar activities since then have been organised by the RSU students also at local supermarkets in the cities of Jelgava and Liepaja as well in the Sigulda Cultural Centre.

This initiative represents a socially innovative way of passing on the knowledge accumulated at the university to the wider public, thus contributing to the broader awareness of health-related issues, which form an important part of the societal challenges faced by modern societies, among the population. Simultaneously this kind of practice also helps to develop the communication skills of vital importance for the prospective doctors.

Latvian Language Conversation Club at the Daugavpils University

Daugavpils is a multicultural city in the Eastern Latvia, with a very diverse population where Latvians make up just 18 % of the total population. The Daugavpils University is the biggest state education establishment in the region. Moreover, the university has become the "Latvianness" centre of the region through offering both Latvian language study programmes and a variety of courses and activities to meet the need to improve the Latvian language skills among people from non-Latvian-speaking backgrounds.

A non-governmental organisation - Society of lifelong learning, culture, and science communication *The Intellect Park* - has been established in 2011 upon the initiative of the Daugavpils University's faculty, particularly the Latvian language teaching staff, to respond to the needs of the region's non-Latvian-speaking population by offering official (Latvian) language conversation classes for individuals and groups, as well as knowledge about the Latvian Cultural Canon. The Latvian language-speaking club with monthly meetings is actively run by Latvian language students who volunteer to communicate with local people in Latvian and also help them to draft different documents (e.g. applications, letters).

This conversation club initiative, which has achieved an unambiguous popularity among the citizens of Daugavpils, could serve as yet another good example to illustrate the richness and potential of non-profit-seeking social innovation as regards external inclusion pursued by a university through the provision of free interactive services for selected citizen groups. Overall, this initiative also plays an important role in facilitating social integration in the region and also in the country as a whole.

Engagement of the Latvia University of Agriculture in Mentoring for Promoting Women Entrepreneurship in Rural Areas of Latvia

The regional location of the Latvia University of Agriculture aligns a special role to this HEI in addressing the various challenges faced by rural areas of the country, not least with regard to unemployment. In order to make a contribution to tackling problems present in this domain, the lecturers of the Latvia University of Agriculture have entered into project-based collaboration, guided by social and non-monetary interest, with active non-governmental organisations. This collaboration has further materialised in a mentoring programme aimed at rural women, which has significantly improved employability in the surrounding Zemgale region and nationally.

The development of this mentoring practice, which is frequently mentioned as one of the most effective ways to facilitate growth and promote entrepreneurship, inter alia providing both social and economic benefits to the development of rural areas (Konstantinova 2008), started with the EU project "FEM: Women Entrepreneurship Development in the Baltic Sea Region" in 2004. It was supported by the EU cross-border programme, with the Ministry of Agriculture, the Latvia University of Agriculture, and the Latvian Rural Women Association as partners. As a result of the programme 27 mentoring pairs and 3 mentoring groups were formed, involving 40 mentees (Konstantinova 2008). At individual level the women involved in the project have gone through big changes: they have acquired confidence, and spotted the possibilities in their own countries, regions, and municipalities. The women cooperation network emerged, resulting in the creation of 6 resource centres and 12 information sites; new micro-businesses and e-commerce were started in Latvia.

This social innovation that represents another practice of external inclusion by universities particularly focuses on one of the important goals of social innovation—namely that of empowerment of citizens (a particular group thereof) and enhancement of their capacity to act. It can be added here that a similar initiative entitled "Mentoring-training-microcredit programme for rural women entrepreneurs" carried out by a non-governmental organisation in the neighbouring Estonia was shortlisted among semi-finalists of the first round of the European Social innovation competition launched by the European Commission (2012) (European Social Innovation Competition 2014).

Services of Day Nurseries at the University of Latvia

Based on student initiative, the first day nursery at the University of Latvia was open at the Faculty of Economics and Management in 2006, followed by the second one at the Faculty of Education, Psychology, and Art in 2010. These are among the first ones of this kind of facilities and services at HEIs in Latvia made available to university employees and students with children (extramural students, in particular) offering free babysitting for children from 3 to 7 years during lectures for a period up to 4 h. Children are looked after by professional babysitters who play with children and engage them in various creative activities.

This service can also be treated as a pure social innovation in Latvia aimed at facilitating better accessibility of education and reducing dropout rates among the group of young parents willing to obtain higher education. While it is hard to presently assess the actual scope and nature of the impact and the level of success of this novel practice of internal inclusion, given the lack of any in-depth studies on this topic, it certainly represents an interesting solution to a specific social need faced by a definite group of students. It is worthwhile noting that recently this practice has been followed also by other universities—since 2014 day nurseries are offered also by the Riga Technical University, and since 2015 by the Riga Stradins University and the Daugavpils University.

Engagement of Elderly People in Research at the Riga Stradins University

An interesting example of university engagement in the domain of social innovation is represented by the involvement of a group of researchers from the Faculty of Rehabilitation of the Riga Stradins University in the EU 7th Framework Programme international research project "Social Innovations Promoting Active and Healthy Ageing" (INNOVAGE, 2012–2015).[20] The overall aim of the project is to bring high-quality scientific expertise closer to societal needs with regard to ageing issues and at active involvement of elderly people in identifying and developing innovative approaches in improving their quality of life and social welfare.

The specific example of this kind of social innovation is demonstrated by the development and testing of a novel Web-based application for tablet PCs for assessing one's existing or new housing as to its physical accessibility (64 potential barriers for free movement) by elderly people (incl. ones with various disabilities). The national study involved a group of people from the given target group in Riga to provide input for and feedback on the prototype of this application that can potentially serve both as an assessment tool and a tool for developing one's capacity to solve the identified problems.

Though this application as a product per se might not turn out to be a pure social innovation given its commercialisation potential, the underlying research practice represents a tangible example of external inclusion through the incorporation of the

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[20] http://www.innovage.group.shef.ac.uk/

needs of a specified and frequently marginalised societal group (that of elderly people) into the university's research agenda.

Engagement in Innovative Community Projects by the Art Research Laboratory at the Liepaja University

Selected activities in the field of social innovation as pursued by public universities as part of external inclusion can also be identified amongst the initiatives undertaken by the Art Research Laboratory established at the Liepaja University. One of those is represented by a computer game on waste management and environmental protection "The Green friend" that has been developed by students from the New Media Arts programme in collaboration with a private company. This initiative has been assessed as an illustrative example of a successful translation of knowledge into a product for an external customer as part of an assignment in a study programme while achieving internal goals and taking advantage of informal relationships (Kunda 2014). While the primary collaboration here has taken place in knowledge and technology transfer between lecturers, students, and entrepreneurs (without monetary rewards), the resulting product and its development per se have been aimed at wider community engagement in advancing public knowledge and practices of sustainable development.

Another example involves the elaboration of research-based recommendations for the local government on the development of a local area in the city of Liepaja by lecturers and students, again as part of the study process, to advance and revive the particular neighbourhood (Kunda 2014). The application of elements of action research via developing contacts with the inhabitants of the area in combination with the use of visual methods is not only an organisational innovation in the study process, but also a telling social innovation with regard to the contribution made by the university to local community.

Student Competition of Social Projects "Open Mind"

In 2007, an annual competition for students "Open Mind" was launched in Latvia by the commercial bank Hansabank (now—Swedbank) initially in cooperation with the Fund of the University of Latvia and later with the Development Fund of the Riga Technical University. Originally 15 HEIs of Latvia took part in this project, but presently it is open to any accredited HEI in Latvia, including 6 public universities. While initially eligible applicants were limited to bachelor-level students, currently projects from students from all study levels are accepted. From a scholarship competition the enterprise has transformed into a competition of social student projects with funding for the finalists granted for the implementation of the best ideas that deal with topics of high societal relevance. The aim of the competition is to motivate young people to apply the academic knowledge acquired at HEIs for finding practical solutions to common needs faced by the local society, thus contributing to

improved environment in one's HEI, city, region, and country. This initiative is aimed at promoting student engagement in the improvement of social environment and interaction between different social groups in the development of civil society.

While the notion of social innovation is not explicitly used as the key word for this initiative, the level of novelty of the proposed ideas is among the main criteria for the assessment of the projects, alongside the elements of public benefits, sustainability, and practicability. Some examples of the projects include the installation of special environmental objects in a museum park to ensure its accessibility to visually impaired people, organisation of the first sports event for people in wheelchairs, demonstrations of sand cinema, and organisation of creative workshops for children with special needs, ensuring accessibility of literature via recording of books in an audio format for different age groups, etc. This initiative thus serves as a platform for diverse social innovations stemming from national HEIs and as a facilitator of social responsibility and comprehension of this concept among students and the public at large.

Conclusions

This chapter has addressed the role of universities in Latvia with regard to social inclusiveness in terms of both ensuring access to higher education and being responsive to the needs of diverse societal groups. It aimed to cover macro, meso, and micro levels of this phenomenon by means of looking into the national policy discourse, the strategic visions elaborated by individual universities, and the actual socially innovative practices undertaken by these organisations.

The study concludes that the national policy discourse regarding the extension activities of universities in Latvia is mostly narrowed down to the transfer of research results and innovative solutions to the business sector. To a much lesser extent references are made to the potential contribution made by universities to the public at large in ensuring inclusiveness and sustainability of the overall development of the country. The equal accessibility of higher education as an indication of internal inclusion by HEIs occupies a comparatively marginal place in the official discourse, though it represents an issue in the national system of higher education given the presence of such obstacles as high tuition fees, insufficient access to scholarships and student loans, as well as underdeveloped infrastructure for physically disabled people. It should also be kept in mind that social inclusiveness of universities cannot be viewed in isolation from the overall level of social equality in the country as well as from the level of inclusiveness in the previous levels of education.

Both the public policy documents and the strategies of individual universities demonstrate a certain conflict between excellence (meritocracy) and equity in relation to the accessibility of higher education in Latvia. Despite the presence of deep social gaps in higher education that tend to inhibit social and economic mobility of certain disadvantaged groups of society, there are limited instruments in place to

systematically address and tackle this problem. While the notions of "inclusive growth" and "social innovation" (though the latter to a much lesser extent) have entered the national policy documents, these tend to demonstrate trends of Europeanisation of the policy discourse through mostly formal adaptation of the declared supranational goals of the EU in the respective policy domains.

The official discourse of the six public universities of Latvia, as represented by their recent strategic development documents elaborated between 2008 and 2013, demonstrates the non-presence of the exact concepts of "social inclusion" and "social innovation", which prove not to be central to their self-perceived role in the social and economic development of the country and/or region. Nevertheless, indirectly the underlying issues of internal inclusion are taken up in the identification of the values guiding the development of universities (e.g. diversity, openness, accessibility), while those of external inclusion are addressed as part of the rhetoric of devotion to solving diverse societal problems and improving the quality of life of the members of the society through research efforts and application of the knowledge produced by universities. While the strategies rarely identify specific marginalised or disadvantaged groups that would require special attention, they do fragmentarily tackle factors related to functional disorders, age (adulthood), ethnicity, income level, etc. The most tangible instruments for the promotion of internal social inclusiveness of universities, as indicated by the strategic documents, are those related to the promotion and development of lifelong learning and continuing education. Some other means include the development of physical infrastructure to facilitate access for disabled people and special scholarships for talented but economically disadvantaged students.

The policies and practices of universities are inevitably permeated by the present financial constraints of HEIs that force them to look for different ways in attracting the necessary funds for ensuring their primary missions of education and research. This frequently implies the secondary role attributed to the wider social mission of universities that for the most part does not provide any financial revenues. Nevertheless, the studied practices of public universities in Latvia, including regional ones, reveal that there is quite a wide spectrum of initiatives—either institutionalised or informal and ad hoc ones—that make a notable contribution to promoting social inclusiveness by addressing diverse public needs. These practices are present in the field of formal and informal adult education, community engagement, counselling, as well as social assistance, vividly demonstrating features of pure social innovation that imply non-profit-seeking activities involving new forms of interaction, measures for improving individuals' capacity for action, and quality of life. At the same time it can again be noted that many of the executed projects/initiatives that can be classified as social innovations have been initiated by international organisations and financed by foreign financial grants that demonstrate the role of international learning in advancing this field of research and practice in Latvia.

As a concluding remark it should be stressed that research on social innovation practices developed and engaged in by universities is still scarce in Latvia. More attention has been paid to studying issues regarding the accessibility of higher education, though also with wide room for further in-depth analysis of different underlying

factors. Thus social inclusiveness and social innovations in the field of higher education represent a domain with a still untapped potential as regards the development of policies, strategies, practices, as well as research thereof.

References

Ādamsone-Fiskoviča, A. (2012). *Zinātnes un sabiedrības attiecības Latvijā: komunikatīvās prakses un diskursi* [Science-society relations in Latvia: communicative practices and discourses]. Ph.D. thesis in sociology, University of Latvia. Rīga: Zinātne Academic Publishers (in Latvian). Retrieved from https://www.researchgate.net/publication/267867479_ZINATNES_UN_SABIEDRIBAS_ATTIECIBAS_LATVIJA_Science-society_relations_in_Latvia_PhD_thesis .

Adamsone-Fiskovica, A., Kristapsons, J., Tjunina, E., & Ulnicane-Ozolina, I. (2009). Moving beyond teaching and research: Economic and social tasks of universities in Latvia. *Science and Public Policy, 36*(2), 133–137.

Adamsone-Fiskovica, A., Kristapsons, J., Tjunina, E., & Ulnicane-Ozolina, I. (2011). Latvia: Repositioning of academic institutions in a catching-up country. In B. Göransson & C. Brundenius (Eds.), *Universities in transition: The changing role and challenges for academic institutions* (pp. 219–246). New York: Springer, IDRC.

Aleksejeva, L. (2014). *Latvijas augstākās izglītības sistēmas efektivitātes izpēte* [Study of the efficiency of the higher education system in Latvia]. GlobeEdit (in Latvian).

Archer, L. (2007). Diversity, equality and higher education: A critical reflection on the ab/uses of equity discourse within widening participation. *Teaching in Higher Education, 12*(5–6), 635–653.

Association of the Universities of Latvia. (2012). *Universitāšu ieguldījums tautsaimniecības attīstībā* [Contribution of universities to the national economy]. Riga. Retrieved from http://www.lu.lv/fileadmin/user_upload/lu_portal/par/strukturvienibas-un-infrastruktura/saist/lua/Universitasu_ieguldijums_Latvijas_tautsaimnieciba.pdf (in Latvian).

Baglioni, S., & Sonclair, S. (2014). Introduction: Social innovation and social policy. *Social Policy & Society, 13*(3), 409–410.

Basit, T. M., & Tomlinson, S. (Eds.). (2012). *Social inclusion and higher education*. Bristol: Polity Press.

Bergen communiqué. (2005). *The European higher education area—Achieving the goals*. Communiqué of the conference of European ministers responsible for higher education, Bergen, May 19–20, 2005. Retrieved from http://www.ehea.info/Uploads/Declarations/Bergen_Communique1.pdf.

Bonifacio, M. (2014). Social innovation: A novel policy stream or a policy compromise? An EU perspective. *European Review, 22*(1), 145–169.

Borzaga, C., & Bodini, R. (2014). What to make of social innovation? Towards a framework for policy development. *Social Policy & Society, 13*(3), 411–421.

Bridges, D., Jucevičienė, P., Jucevičius, R., McLaughlin, T., & Stankevičiūtė, J. (Eds.). (2007). *Higher education and national development: Universities and societies in transition*. London: Routledge.

Cabinet of Ministers of the Republic of Latvia. (2011). *National reform programme of Latvia for the implementation of the "Europe 2020" strategy*. Retrieved from http://ec.europa.eu/europe2020/pdf/nrp/nrp_latvia_en.pdf.

Cabinet of Ministers of the Republic of Latvia. (2013). *Zinātnes un tehnoloģijas attīstības un inovācijas pamatnostādnes 2014–2020. gadam* [Guidelines of research, technological development and innovation for 2014–2020]. Retrieved from http://polsis.mk.gov.lv/api/file/file8915.doc (in Latvian).

Cabinet of Ministers of the Republic of Latvia. (2014). *Declaration of the Intended Activities of the Cabinet of Ministers Headed by Laimdota Straujuma*. Retrieved from http://www.mk.gov.lv/sites/default/files/editor/11ls_deklaracija_21012014_gala_red.pdf (in Latvian).

Cajaiba-Santana, G. (2014). Social innovation: Moving the field forward. A conceptual framework. *Technological Forecasting & Social Change, 82*, 42–51.

Carnoy, M. (2013). Does higher education expansion equalize income distribution? *International Higher Education, 71*, 2–3.

Central Statistical Bureau of Latvia. (2014, July 17). 22.6 thousand Latvian residents chose to emigrate in 2013. *News Release*. Retrieved August 10, 2014, from http://www.csb.gov.lv/en/notikumi/226-thousand-latvian-residents-chose-emigrate-2013-39650.html.

Council of Higher Education. (2013). *Latvijas augstākās izglītības un augstskolu attīstības nacionālā koncepcija 2013.–2020. gadam* [National concept on the development of higher education and higher education institutions in Latvia for 2013–2020]. Retrieved from www.aip.lv/files/AIP_vestules_nr11231_pielik_LAIAANK_Koncepcija.doc (in Latvian).

Council of the European Union (2013). *Council conclusions on the social dimension of higher education*. Retrieved from http://www.consilium.europa.eu/uedocs/cms_data/docs/pressdata/en/educ/137144.pdf.

Council of the European Union. (2014). *Council recommendation on the National Reform Programme 2014 of Latvia and delivering a Council opinion on the Stability Programme of Latvia*. Brussels. Retrieved from http://register.consilium.europa.eu/doc/srv?l=EN&f=ST%2010793%202014%20INIT.

Cunska, Z. (2011). *Role of demographic and social factors in formation and development of higher education attainment in Latvia*. Ph.D. thesis in demography. Riga: University of Latvia. Retrieved from https://luis.lu.lv/pls/pub/luj.fprnt?l=1&fn=F1818914396/Zane%20Cunska%202011.pdf.

Duru-Bellat, M., Kieffer, A., & Reimer, D. (2008). Patterns of social inequalities in access to higher education in France and Germany. *International Journal of Comparative Sociology, 49*(4–5), 347–368.

Etzkowitz, H., Webster, A., Gebhardt, C., & Terra, B. R. C. (2000). The future of the university and the university of the future: Evolution of ivory tower to entrepreneurial paradigm. *Research Policy, 29*(2), 313–330.

European Commission. (2010). *Communication from the Commission: Europe 2020—A strategy for smart, sustainable and inclusive growth*. Retrieved from http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2010:2020:FIN:EN:PDF.

European Commission (2011a). *Empowering people, driving change: Social innovation in the European Union*. Bureau of Policy Advisers (BEPA). Retrieved from http://ec.europa.eu/bepa/pdf/publications_pdf/social_innovation.pdf

European Commission (2011b). Social Business Initiative: Creating a favourable climate for social enterprises, key stakeholders in the social /economy and innovation. Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions. COM(2011) 682 final. Retrieved from http://ec.europa.eu/DocsRoom/documents/14583/attachments/3/translations/en/renditions/pdf.

European Commission. (2012, March 1). Latvia: An economic success story in the making. News Release. Retrieved from http://ec.europa.eu/economy_finance/articles/financial_operations/2012-03-05_latvia_economic_en.htm.

European Social Innovation Competition. (2014). *Final report to the European Commission DG ENTR*. Ascent Communications. Retrieved from http://ec.europa.eu/DocsRoom/documents/5862/attachments/1/translations/en/renditions/pdf.

Eurostat. (2015a). Gini coefficient of equivalised disposable income (source: SILC). Retrieved from http://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=ilc_di12&lang=en.

Eurostat. (2015b). People at risk of poverty or social exclusion by age and sex. Retrieved from http://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=ilc_peps01&lang=en.

Eurydice. (2011). *Modernisation of higher education in Europe: Funding and the social dimension*. European Commission. Retrieved from http://eacea.ec.europa.eu/education/eurydice/documents/thematic_reports/131en.pdf.

Gasior, K., & Lelkes, O. (2013). *Poverty, inequality, and the social impact of the financial crisis in Latvia*. European Centre for Social Welfare Policy and Research, Vienna. Commissioned by the World Bank. Retrieved from http://www.euro.centre.org/data/1381332309_98477.pdf.

Geske, A., Grinfelds, A., Dedze, I., & Zhang, Y. (2006). Family background, school quality and rural–urban disparities in student learning achievement in Latvia. *Prospects, 36*(4), 419–431.

Geuna, A., & Rossi, F. (2015). *The university and the economy: Pathways to growth and economic development*. Edward Elgar Publishing.

Gibbons, M., Limoges, C., Nowotny, H., Schwartzman, S., Scott, P., & Trow, M. (2007). *The new production of knowledge: The dynamics of science and research in contemporary societies*. SAGE Publications.

Gidley, J. M., Hampson, G. P., Wheeler, L., & Bereded-Samuel, E. (2010). From access to success: An integrated approach to quality higher education informed by social inclusion theory and practice. *Higher Education Policy, 23*(1), 123–147.

Göransson, B., & Brundenius, C. (Eds.). (2011). *Universities in transition: The changing role and challenges for academic institutions.* Springer, IDRC.

Göransson, B., Maharajh, R., & Schmoch, U. (2009a). Introduction: New challenges for universities beyond education and research. *Science and Public Policy, 36*(2), 83–84.

Göransson, B., Maharajh, R., & Schmoch, U. (2009b). New activities of universities in transfer and extension: Multiple requirements and manifold solutions. *Science and Public Policy, 36*(2), 157–164.

Green, A., Preston, J., & Janmaat, J. G. (2006). *Education, equality and social cohesion: A comparative analysis*. Palgrave.

Hickey, S., Sen, K., & Bukenya, B. (2015). Exploring the politics of inclusive development: Towards a new conceptual approach. In S. Hickey, K. Sen, & B. Bukenya (Eds.), *The politics of inclusive development: Interrogating the evidence* (pp. 3–32). Oxford University Press.

Hughes, K. (2015). The social inclusion meme in higher education: Are universities doing enough? *International Journal of Inclusive Education, 19*(3), 303–313.

Janiūnaitė, B., & Gudaitytė, D. (2007). Higher education as an agent of social innovation. In D. Bridges, P. Jucevičienė, R. Jucevičius, T. McLaughlin, & J. Stankevičiūtė (Eds.), *Higher education and national development: Universities and societies in transition* (pp. 215–226). London: Routledge.

Jarohnovich, N., & Avotiņš, V. (2013). The changing role of the entrepreneurial university in developing countries: The case of Latvia. *Journal of Higher Education Theory and Practice, 13*(2), 121–148.

Johnson, B., & Andersen, A. D. (Eds.). (2012). *Learning, innovation and inclusive development: New perspectives on economic development strategy and development aid*. Globelics Thematic Report 2011/2012. Aalborg: Aalborg University Press. Retrieved from http://vbn.aau.dk/files/70880770/Learning_Innovation_and_Inclusive_Development.pdf.

Kārkliņa, I. (2014). *Latvijā studējošo saliedētības veicināšana un ārzemju studentu diskriminēšanas mazināšana* [Community building among students in Latvia and reduction of discrimination of foreign students]. Research report. GfK, Latvia. Retrieved from http://providus.lv/article_files/2656/original/RTU-SP_atskaite_FINAL.pdf?1406891350 (in Latvian).

Kaša, R. (2008). Augstākās izglītības pieejamība Latvijā: valsts un pašvaldību loma studentu finansēšanā [Accessibility of higher education in Latvia: The role of the state and local governments in student funding]. In Ž. Ozoliņa & I. Ulnicāne-Ozoliņa (Eds.), *Latvija 2020: Nākotnes izaicinājumi sabiedrībai un valstij* (pp. 83–100). Riga: Academic Publishers of the University of Latvia (in Latvian).

King, R. (Ed.). (2003). *The university in the global age*. Palgrave Macmillan.

Kļava, G., Kļave, K., & Motivāne, K. (2010). *Latviešu valodas prasme un lietojums augstākās izglītības iestādēs: mazākumtautību izglītības satura reformas rezultāti* [The conduct and use of the Latvian language at higher education institutions: results of the reform of minority education contents]. Riga: Latvian Language Agency. Retrieved from http://www.izm.gov.lv/images/statistika/petijumi/31.pdf (in Latvian).

Konstantinova, E. (2008). *Mentoring as knowledge transfer process promoting entrepreneurship in rural areas of Latvia*. Summary of the Ph.D. thesis in economics. Jelgava: Latvia University of Agriculture. Retrieved from http://llufb.llu.lv/dissertation-summary/management/Elina_Konstantinova_prom_d_kopsavilkums_2009_LLU_EF.pdf.

Koroļeva, I., Aleksandrovs, A., Trapenciere, I., Rungule, R., Trapencieris, M., & Jankovskis, M. (2013). *Studentu sociālie un ekonomiskie dzīves apstākļi Latvijā* [Social and economic conditions of student life in Europe. Eurostudent V]. Study commissioned by the Ministry of Education and Science. Riga: Institute of Philosophy and Sociology of the University of Latvia. Retrieved from http://www.izm.gov.lv/images/statistika/petijumi/13.pdf (in Latvian).

Kronberga, G. (2014). *Augstskolas zināšanu pārnesē Latvijā* [Universities in knowledge transfer in Latvia]. Ph.D. thesis in sociology. Riga: University of Latvia. Retrieved from http://www.szf.lu.lv/fileadmin/user_upload/szf_faili/Bauhausi/Kronberga_Ginta_Augstskolas_zinasanu_parnese_Latvija_2014_pdf.pdf (in Latvian).

Kunda, I. (2014). *Inovācijas universitātē: varas un leģitimitātes aspekti* [Innovation in universities: Aspects of power and legitimacy]. Ph.D. thesis in sociology. Riga: University of Latvia. Retrieved from http://www.szf.lu.lv/fileadmin/user_upload/szf_faili/Bauhausi/Kunda_Ilona_2014.pdf (in Latvian).

León, L. R., Simmonds, P., & Roman, L. (2012). *Trends and challenges in public sector innovation in Europe*. Thematic Report 2012 under Specific Contract for the Integration of INNO Policy TrendChart with ERAWATCH (2011–2012). Technopolis Group. Retrieved from http://www.technopolis-group.com/wp-content/uploads/2014/06/1447_INNOERATREND-2011-12.pdf.

Lešinska, A., Litvins, G., Pīpiķe, R., Šimanska, I., Kupics, O., & Bušēvica, K. (2012). *Latvija ceļā uz sociālo uzņēmējdarbību* [Latvia on its way towards social entrepreneurship]. Public policy centre PROVIDUS, Civil alliance—Latvia. Retrieved from http://providus.lv/article_files/2265/original/SU_gala_9nov.pdf?1352889758 (in Latvian).

Lukjanska, R. (2015). Latvia. In *Social enterprise sector snapshot around the Baltic Sea: Stakeholders, education, impact analysis* (pp. 42–52). Social entrepreneurship support network of the Baltic Sea region. Retrieved from http://socialinnovation.lv/wp-content/uploads/2015/02/makets-ENG-26.02-15.40-IO1-final.pdf.

Mejlgaard, N., Bloch, C., Degn, L., Nielsen, N. W., & Ravn, T. (2012). Locating science in society across Europe: Clusters and consequences. *Science and Public Policy, 39*(6), 741–750.

Ministry of Education and Science. (2013.) *Basic guidelines for the development of education for 2014–2020*. Retrieved from http://www.lsa.lv/wp-content/uploads/2013/03/Izglitibasattistibaspamatnostadnes.pdf (in Latvian).

Ministry of Education and Science. (2014). *Pārskats par Latvijas augstāko izglītību 2013. gadā (galvenie statistikas dati)* [Report on higher education in Latvia in 2013 (key statistica data)]. Department of Higher Education and Science. Retrieved from http://www.izm.gov.lv/images/statistika/augst_izgl/01.pdf (in Latvian).

Ministry of Finance (2013, February 26). *FM un LM: Nākamā gada prioritāte ir nevienlīdzības mazināšana* [Ministry of Finance and Ministry of Welfare: Setting the reduction of inequality as the priority of the coming year]. *News Release*. Retrieved from http://www.fm.gov.lv/lv/aktualitates/jaunumi/nodokli/45841-fm-un-lm-nakama-gada-prioritate-ir-socialas-nevienlidzibas-mazinasana (in Latvian).

Ministry of Finance of the Republic of Latvia. (2014).Partnership agreement for the European Union funds programming period 2014–2020. Project. Retrieved from http://esfondi.lv/upload/14-20_gads/DP/Partnership_Agreement_ENG.pdf.

Moulaert, F., MacCallum, D., Mehmood, A., & Hanmdouch, A. (Eds.). (2013). *The international handbook on social innovation: Collective action, social learning and transdisciplinary research*. Edward Elgar.

Muravska, T., & Prause, G. (Eds.). (2012). *European integration and Baltic Sea studies: University-business partnership through the Triple Helix approach*. Berliner Wissenschafts Verlag GmbH.

Murray, R., Caulier-Grice, J., & Mulgan, G. (2010). *The open book of social innovation*. Social innovator series: Ways to design, develop and grow social innovation. Retrieved from http://youngfoundation.org/wp-content/uploads/2012/10/The-Open-Book-of-Social-Innovationg.pdf.

NDP 2020. (2012). *National development plan of Latvia for 2014–2020*. Retrieved from http://www.pkc.gov.lv/images/NAP2020%20dokumenti/NDP2020_English_Final.pdf.

Neave, G. (Ed.). (2000). *The universities' responsibilities to society: International perspectives*. Oxford: Elsevier.

Nīmante, D. (2008). *Bērnu ar speciālām un īpašām vajadzībām iekļaujošās izglītības vēsturiskā attīstība* [Inclusive education of children with special and exceptional needs in Latvia: historical and contemporary context]. Ph.D. thesis in pedagogy. Riga: University of Latvia. Retrieved from https://luis.lu.lv/pls/pub/luj.fprnt?l=1&fn=F585033295/Dita%20Nimante%202008.%20pdf.pdf (in Latvian).

OECD. (2011). *Perspectives on global development 2012: Social cohesion in a shifting world*. OECD Development Centre. Retrieved from http://www.oecd-ilibrary.org/development/perspectives-on-global-development-2012_persp_glob_dev-2012-en.

OECD. (2015). *OECD Economic survey: Latvia 2015*. Paris: OECD Publishing. doi:10.1787/9789264228467-en

Osburg, T., & Schmidpeter, R. (Eds.). (2013). *Social innovation: Solutions for a sustainable future*. Springer.

Ozols, A., Ozola, E., & Eglītis, J. (2012). Introduction of Triple Helix model in Latvia based on experience of Sweden, Singapore and South Korea. *Problems of Education in the 21st Century, 43*, 58–68.

Paņina, L. (2011). *Latvijas augstākās izglītības sistēmas efektivitātes izpēte un vidēja termiņa attīstības modeļi* [Study on efficiency of higher education system of Latvia and models of middle-term development]. Ph.D. thesis in economics. Daugavpils: Daugavpils University.

Paunov, C. et al. (2013). *Innovation and inclusive development*. Discussion report. Revised February 2013. The Organisation for Economic Co-operation and Development. The Young Foundation. Retrieved from http://www.oecd.org/sti/inno/oecd-inclusive-innovation.pdf.

Paura, L., & Arhipova, I. (2014). Cause analysis of students' dropout rate in higher education study program. *Procedia—Social and Behavioral Sciences, 109*, 1282–1286.

Phills, J., Deiglmeier, K., & Miller, D. (2008). Rediscovering social innovation. *Stanford Social Innovation Review, 6*(4). Retrieved from http://www.ssireview.org/articles/entry/rediscovering_social_innovation.

Pol, E., & Ville, S. (2009). Social innovation: Buzz word or enduring term? *The Journal of Socio-Economics, 38*, 878–885.

Romele, L. (2014). *Izglītības privātās un sociālās atdeves novērtējums Latvijā* [The evaluation of private and social rates of return to education in Latvia]. Ph.D. thesis in economics. Riga: University of Latvia. Retrieved from https://luis.lu.lv/pls/pub/luj.fprnt?l=1&fn=F1347574827/Linda%20Romele%202014.pdf (in Latvian).

Roskoša, A. (2012). *Integrācijas prasmju veidošanās augstskolā Latvijas kontekstā* [Integration skills development at a higher education institution in the context of Latvia]. Ph.D. thesis in management science. Riga: University of Latvia. Retrieved from https://luis.lu.lv/pls/pub/luj.fprnt?l=1&fn=F1222719075/Antra%20Roskosa%202012.pdf (in Latvian).

Saeima of the Republic of Latvia. (1995). Law on *i*nstitutions of *h*igher *e*ducation. Retrieved from http://www.vvc.gov.lv/export/sites/default/docs/LRTA/Likumi/Law_On_Institutions_of_Higher_Education.doc.

Saeima of the Republic of Latvia. (2010). *Sustainable development strategy of Latvia until 2030*. Retrieved from http://www.varam.gov.lv/in_site/tools/download.php?file=files/text/dokumenti/pol_doc//LIAS_2030_en.pdf.

Sinclair, S., & Baglioni, S. (2014). Social innovation and social policy—Promises and risks. *Social Policy & Society, 13*(3), 469–476.

Spriņģe, I. (2012, October 16). The hidden side of Latvia's 'success' story. ReBaltica: The Baltic Centre for Investigative Journalism. Retrieved from http://www.rebaltica.lv/en/investigations/the_other_side_of_latvias_success_story_/a/799/the_hidden_side_of_latvia's_'success'_story.html.

Spuriņš, U. (2011). *Augstākās izglītības personiskais un sociālais ienesīgums* [Private and social profitability of higher education]. Riga: Commission of Strategic Analysis. (in Latvian).

Stankevičs, A. (2015). The role of the higher education in the increasing of performance of a region. Summary of the Ph.D. thesis in economics. Daugavpils: Daugavpils University. Retrieved from http://du.lv/wp-content/uploads/2015/12/Aivara_Stankevica_kopsavilkums_save.pdf.

Šmitiņa, A. (2011). *Studentu atbalsta pilnveidošanas iespējas studiju pārtraukšanas samazināšanai Latvijas augstākās izglītības iestādēs* [Reducing study dropout in higher education institutions as a result of improvement of student guidance: Case of Latvia]. Ph.D. thesis in management science. Riga: University of Latvia. Retrieved from https://dspace.lu.lv/dspace/bitstream/handle/7/5091/20165-Agita_Smitina_2011.pdf?sequence=1&isAllowed=y (in Latvian).

Tisenkopfs, T., & Bela, B. (2011). Zināšanu un prakses mijiedarbe: sadarbības risinājumi reģionos [Knowledge-practice interplay: cooperation solutions in the regions]. In T. Tisenkopfs, B. Baiba, & I. Kunda (Eds.), *Augstskolas reģionos: zināšanu un prakses mijiedarbe* (pp. 427–458). Riga: Zinātne Academic publishers (in Latvian).

Tisenkopfs, T., Bela, B., & Kunda, I. (Eds.). (2011). *Augstskolas reģionos: zināšanu un prakses mijiedarbe* [Universities in regions: Links between knowledge and praxis]. Riga: Zinātne Academic Publishers (in Latvian).

UNICEF. (2007). *Education for some more than for others*? Geneva: UNICEF Regional Office for Central and Eastern Europe and the Commonwealth of Independent States. Retrieved from http://www.unicef.org/ceecis/070920-RegEduStudy-web_en.pdf.

Unterhalter, E., & Carpentier, V. (Eds.). (2010). *Global inequalities and higher education. Whose interests are you serving*? Palgrave Macmillan.

Usher, A., & Medow, J. (2010). *Global higher education rankings 2010: Affordability and accessibility in comparative perspective*. Higher Education Strategy Associates. Retrieved from http://higheredstrategy.com/wp-content/uploads/2011/09/GHER2010_FINAL.pdf.

Vasiļevska, D. (2014). *Sociāli ekonomiskie faktori augstākās izglītības pieejamības nodrošinājumam Latvijā* [Socio-economic factors for ensuring accessibility to higher education in Latvia]. Ph.D. thesis in management science. Riga: University of Latvia. Retrieved from https://luis.lu.lv/pls/pub/luj.fprnt?l=1&fn=F-1062074785/Daina%20Vasilevska%202014.pdf (in Latvian).

Vīksne, D. (2010). *Assessment and development perspectives of regional higher education institutions of Latvia*. Summary of the Ph.D. thesis in economics. Jelgava: Latvia University of Agriculture. Retrieved from http://llufb.llu.lv/dissertation-summary/education/Dace_Viksne_promocijas_darba_kopsavilkums_2010_LLU_EF.pdf.

World Bank. (2014a). *Higher education financing in Latvia: Analysis of strengths and weaknesses*. World Bank Reimbursable Advisory Service on Higher Education Financing in Latvia. Retrieved from www.viaa.gov.lv/files/news/24067/lv_hef_output_1_final_18mar14.pdf.

World Bank. (2014b). *Assessment of current funding model's 'strategic fit' with higher education policy objectives.* World Bank Reimbursable Advisory Service on Higher Education Financing in Latvia. Retrieved rom http://www.viaa.gov.lv/files/news/24067/lv_r2_strategic_fit_18april_vfinal.pdf.

Chapter 14
Role of Universities for Inclusive Development and Social Innovation: Experiences from Sweden

Bo Göransson

Abstract This chapter explores how universities in Sweden have approached the challenges of inclusive development and social innovation. Whereas the higher education system has been quite successful in providing access to previously excluded groups, the concept of social innovation applied to solving social problems has not yet been integrated into the policies and practices of the university innovation system. The Third Mission of universities is generally interpreted as research and innovation aimed at developing and commercializing technical products rather than supporting more intangible and complex social innovation activities. The universities' innovation systems for commercial innovations are well developed but organizationally and operationally disconnected from social innovation activities. At the core of this separation of social innovation activities from the work of technology transfer offices at universities is the tendency of regarding commercial innovation as organically separated from social innovation. Instead, a model should be adopted that acknowledges that although much of technological innovation is distinctly different in process, aim, and outcome compared to social innovation, there exists a considerable overlap between the two types of innovation.

Keywords Sweden • University • Social innovation • Inclusive development • Third Mission • Social entrepreneurship

Background

This chapter deals with the process of inclusive development in the higher educational system in Sweden and how it relates to knowledge production and innovation. An appropriate point of departure for an analysis of this process in Sweden, long a bastion of social justice and an egalitarian market system, is the well-documented

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global phenomenon of growing economic inequalities of today. As is discussed in detail in Chap. 2 of this volume, the distribution of wealth gains increasingly favors those at higher wealth and income levels (see, e.g., Credit Suisse 2015; Oxfam 2016). This process is not of recent date, nor is it confined to a particular part of the world. As Thomas Piketty in his seminal book has demonstrated, the concentration of wealth has noticeably increased ever since the mid-twentieth century in many countries (Piketty 2013). Sweden is no exception to this. Wealth inequality in Sweden has significantly increased after the 1970s, particularly in the 1980–1990 period but also after the turn of the twenty-first century (Piketty 2013: 344–345).

This has increasingly brought the issue of wealth concentration and income disparities to the attention of policy makers in Sweden as well as in other developed countries. Consequently, we can observe a gradual shift in the discussion on global economic disparities away from the almost exclusive domain of development economics—regarded as a matter primarily for the developing world—towards the inclusion of distributional and inclusiveness issues also in the developed world. That is, the discourse on economic disparities *between* countries is now complemented by analyses of and policy discussions on disparities *within* countries also in the Western world.

In the political domain as well as for international organizations, the concepts of innovation and inclusive development have in recent years been perceived as, if not a panacea, at least a promising and sustainable path for counteracting rising inequalities in development and growth (c.f. WB 2012; De Mello and Dutz 2012; Singh et al. 2012; Saad-Filho 2010; Bepa 2011; OECD 2011; IDRC 2011). However, it has become abundantly clear that the wealth generator of the existing innovation system tends to perpetuate rather than assuage the concentration of wealth in a society. The mainstream proprietary market system for commercial innovation apparently fails to deliver innovations aimed directly at alleviating social ills and promoting inclusive development.

In this context it is easy to see the allure of the social innovation concept for policy makers. Innovation relates to inequality in three ways according to OECD (2013:5): through its direct impact on income distribution (which tends to benefit higher income groups), as frugal innovation solutions benefiting lower and middle income echelons, and as grassroots innovation activities by and for lower income groups. Social innovation, by its emphasis on solutions to social problems, tends to counteract economic and social inequalities by benefiting poorer strata of the population. Examples of social innovations include such diverse areas as emission trading, micro-credit schemes, fair trade arrangements, as well as medical or energy solutions for people with few means or new mobile-phone-based electronic payment systems like the M-Pesa that has revolutionized the lives of many low-income people in Africa.

The enthusiastic embrace of the idea of social innovation by policy makers is not unproblematic. Even though the concept has received increasing attention by the research community in recent years, no commonly agreed definition exists. The rather loose usage of the concept in policy documents and rhetoric brings with it a danger of it becoming yet another empty buzz word. A thorough definition of social innovation would allow the concept to be usefully applied in empirical studies and

is, thus, of fundamental importance in establishing social innovation as a subject of scientific inquiry (Pol and Ville 2009).

Moreover, Borzago and Bodini (2012) see in the increasing attention paid to social innovation a reflection of a changing way of looking at the society. The notion that social innovation can alleviate social ills is an implicit acknowledgement of the failure of the innovation system based on the market and the state as the only actors. They conclude that "it is ironic that so much of the debate on social innovation borrows heavily from private sector strategies and underscores the importance of private sector involvement with public sector support, reverting in effect to the very same paradigm, the collapse of which has led to the need for social innovation strategies in the first place" (Borzaga and Bodini 2012: 14).

In the following we will examine how Sweden has dealt with this shift in perception. More specifically, this chapter explores how universities in Sweden have approached the challenges of inclusive development and social innovation. First, the concept of social innovation is discussed in the context of higher education in Swedish, followed by a presentation of the university as an actor in the welfare and innovation systems. The next two sections analyze how the higher education system deals with social inclusion issues and how social innovation and social entrepreneurship activities are operationalized at Swedish universities. Conclusions are presented in the final section.

Social Innovation Discourses and the University

The expectations on universities to be of greater relevance for society have grown over time as a result of mounting external and internal pressures on universities to redefine themselves in an increasingly integrated, competitive, and globalizing world and to take on a host of new challenges, including outreach functions and technology transfer activities. Such activities constitute what is known as the Third Mission (in addition to the teaching and research missions) or extension services as it is called in a Latin American perspective. Within their Third Mission/extension activities, universities, as institutions of higher education and knowledge production, have potentially a central role to play in enhancing and promoting social innovation activities. In practice, however, universities in most countries of the world have for long geared its Third Mission activities towards research and innovation aimed at technology transfer to industry—typically not impacting income distribution in a positive way—rather than supporting more intangible and complex social innovation activities (Göransson et al. 2009).

The ability and interest of universities to engage in social innovation are influenced by a diverse set of internal and external factors. First, from an organizational and corporate-culture perspective, social innovation activities may involve completely new constellations of actors operating on an *ad hoc* basis reacting to societal problems and unarticulated demand. Engaging in new types of innovation activities requires new structures and collaboration patterns of actors and networks of actors

complementing traditional forms of innovation promoted at universities. This relates to both new organizational forms for social innovation that impact the university's prospects for exploring social innovation opportunities with the surrounding society at large (i.e., the organization of social innovations) and the ability of universities to organizationally open up the internal innovation system to facilitate social innovations, i.e., the "intrapreneurial" capacity of an organization (Pinchot 1984).

Second, from a technology perspective, commercial as well as social innovations are to a large extent driven by advances of science and technology. Some technologies such as information and communication technologies (ICT) appear to lend themselves more easily to social innovation activities than others which begs the question to what extent the inherent dynamics of technologies set the boundaries for sustainability and socioeconomic impact.

Third, from a policy perspective, modern universities have evolved to include all three missions of universities but the particular way to do it is path dependent and does not follow any "best cases" or standard models. A common trend appears to be that in countries devoting a high share of resources to R&D, the Third Mission of universities is narrowly interpreted to mean transfer of technology from university to industry. Conversely, it is in countries with fewer resources available for R&D that the likelihood is higher for the third Mission to include a broader societal involvement (Göransson and Brundenius 2011). The external policy for the Third Mission, together with the internal incentive structure, greatly influences the university's capacity and willingness to engage in social innovation activities.

A further, complicating, factor is the elusiveness of the concept of innovation and how it relates to inclusive development. As stated above, and discussed more in detail in Chap. 2 in this volume, there is a plethora of definitions of social innovation. One reason is that social innovation can manifest itself in several forms. Just like commercial innovation, social innovation can take the form of a product, production process, or technology but it can also be an idea or a principle, a social program, or rules and regulations (Phills et al. 2008). Most social innovations consist of a combination of these forms. For instance, the M-Pesa payment system referred to above that started with the observation that people spontaneously used mobile phones for transferring airtime as money (the idea), and was coupled with the software developed by a university student in Kenya for the payment system (the product), would not have had such a profound impact on society if it had not been picked up by telecom and banking agents (the production process) and tailored (rules and regulations) to the needs of the users.

Without delving too much into the intricacies of competing definitions, the definition of social innovation by the Stanford Center for Social Innovation will be used in this chapter: "a novel solution to a social problem that is more effective, efficient, sustainable, or just than present solutions and for which the value created accrues primarily to society as a whole rather than private individuals."

This definition is not problem free, nor uncontested, but it will allow us to avoid the pitfall of a too imprecise definition rendering the concept useless as a research object (Pol and Ville 2009). Equally important, the definition does not exclude all types of technological (or business) innovations from the concept of social innovation.

A conceptual separation of technological and social innovation has clear implications for policy. In the literature on national innovation systems we find a clear distinction on the process level between commercial innovations—or techno-economic innovations (Heiskala 2007)—and innovations aimed at excluded segment of the population. Commercial or business innovation is defined in the Oslo Manual as four changes in firm's activities: product innovations, process innovations, organizational innovations, and marketing innovations (OECD 2005:17). This type of innovation results from the present dominant knowledge production process and can be regarded as "innovation aimed at middle- and high-income consumers, producing new goods and services that improve the welfare of those consumers and/or producing new processes that improve the productivity of formal producers" (Heeks et al. 2014:175). The preoccupation of the market-led innovation system to cater for the richer strata of the population while neglecting innovations aimed at groups with low or unarticulated demand has prompted critics to argue that it leads to innovation of inequality (OECD 2013; Heeks et al. 2014; Johnson and Andersen 2012). The latter type of innovation has been given many names such as inclusive innovation, social innovation, base-of-the-pyramid (BoP) innovation, and pro-poor innovation. Typically, these types of innovation are aimed at marginalized or excluded groups in society and require the active engagement of the target population in the innovation process.

The innovation model implied by this process-focused approach is depicted in Fig. 14.1. By definition, commercial innovation as a process is not concerned with excluded groups with unarticulated demand, whereas inclusive innovation, as a subset of social innovation, must involve representatives of the disenfranchised community and, narrowly defined, must be carried out by this group. Regarded in this way, the two types of innovation involve distinctly different processes and never the twain shall meet.
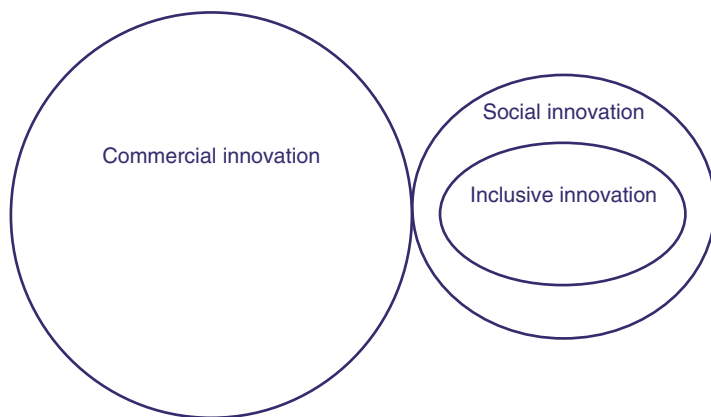
Fig. 14.1 Innovation model—processes (*source*: Göransson and Renault 2015)
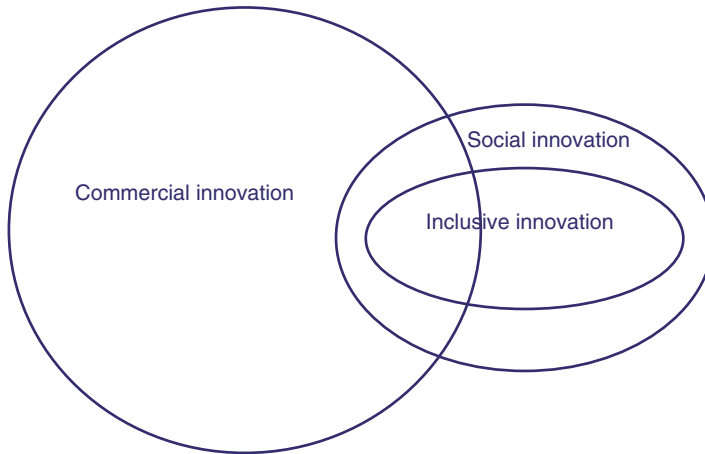
Fig. 14.2 Innovation model—outcomes (*source*: Göransson and Renault 2015)

An alternative, and arguably more fruitful, way to view the relationship between commercial innovation and social/inclusive innovation is to focus on the result of the innovation process. An outcome-oriented model is depicted in Fig. 14.2. Here it is the outcomes of social innovation and inclusive innovation activities that matter, not who has taken the initiative or been involved in the process. The model acknowledges that much of commercial innovation is distinctly different in process, aim, and outcome compared to social innovation. However, it also illustrates that there exists a considerable overlap between the two types of innovation. It can be argued that it is precisely this overlap that carries with it the most promising potential for addressing pressing needs of society and for improving the conditions of the disenfranchised. It also brings with it recognition of the important role for-profit enterprises and individuals can play in social and inclusive innovation, and *vice versa*.

The distinction is not trivial. Viewing commercial innovation as fundamentally separate from social and inclusive innovation has consequences for how policies are formulated and, thus, on how universities organize their internal innovation systems in the pursuit of fostering innovative capabilities. During the last couple of decades, the ability of universities to foster entrepreneurship and innovative capacities has received growing attention. Courses in entrepreneurship are universally offered and most universities in the world now have some kind of a Technology Transfer Office (TTO) where students and researchers can receive support in developing business ideas, patenting and licensing inventions, and commercializing products and services. Typically, these activities involve technological innovation with clearly articulated existing or potential demand, and are aimed at providing a commercial profit for the university and/or the inventor. Some universities have become quite adept in organizing their research teams in support of entrepreneurial activities. For some observers of this move towards entrepreneurial universities it is a distortion of the

Humboldtian university ideal (Arocena et al. 2015; Fischer 2015; Slaughter and Leslie 1997) while others regard it as a natural and logical extension of the activities of the research university (Etzkowitz 2003). Either way, the focus of the university is firmly placed on commercial innovation and its requirements in terms of organization and incentive structures.

Social and inclusive innovations, on the other hand, are trickier in the sense that they often are geared towards complex challenges in society. Here, the larger rewards do not arise in the form of accumulation of wealth but rather in the form of improvements for society at large. Pursuing this type of innovation may require active collaboration by a varied set of actors with no prior or natural links to academic research, as the example of the M-Pesa payment system described above illustrates. While commercial innovation involves private business and public organizations devoted to improving the competitiveness of industry, social innovation requires other or additional partners and complementing organizational forms. It could be argued that, whereas universities in Sweden have become adept in fostering innovative capacities and entrepreneurial activities for commercial innovation, the organizational structures at universities have been slow to adapt to the requirements of social and inclusive innovation. The ruling paradigm at universities is still the process-centric model (Fig. 14.1) with divergent policies and conditions for commercial innovation activities by TTOs and for social innovation pursued by students and researchers at social innovation centers. Gidlund and Frankelius (2003) have labelled this the "technology trap", the preoccupation with marketable product and process innovations at the expense of social, regulative, and organizational innovations, which has characterized much of Sweden's innovation policy (Lindberg 2013).

This policy orientation has had clear implications for the process of knowledge production at universities. In the following, we will discuss the consequences of this by analyzing the experiences of Swedish universities.

The Role of Universities in the Swedish National System of Innovation

The Swedish Higher Education Institution (HEI) system has a long history and traces its origin back to the medieval cathedral schools. In 1477, Sweden's first university was established in Uppsala. Today, the Swedish university system encompasses 44 universities and university colleges of which 26 can confer doctoral degrees. Most of these are public institutions or, in some cases, self-governing foundations funded by public money and following the same directives as public universities.

The strong governmental involvement in Higher Education is historically anchored in the Swedish welfare system with public-sector provision of free education, health care, and universal social security. The mandated tasks for universities, regulated in the University Law of 1992, are to provide science-based education as well as to

carry out research and development. To these, a third task was added in 1997: to interact with the broader society and actively work for the utilization of research results. Although the wording is rather nebulous, the HEIs have generally interpreted it as providing support structures for researchers to develop and commercialize technical products (Pålsson et al. 2009). This is much in line with a general trend in HEIs since the turn of the millennium of moving towards increased market orientation and collaboration between HEIs and private industry. Stressing the need for universities to better support the competitiveness of Swedish industry, a string of reports and white papers from governments of different political shades have called for universities to become more entrepreneurial and conducive to innovation. In support of that goal, universities were granted increased autonomy in 2011 (Ministry of Education 2009) leading to a higher influence of the private sector on university boards.

Turning to the second mission of HEIs, research and innovation have received high priority in the last several decades in Sweden. In the latest Research and Innovation bill, the government proclaims that the research policy objective for Sweden is "to be a prominent research nation in which research and innovation are conducted with high quality, contributing to the development of society and the competitiveness of industry" (Ministry of Education 2012). These broad policy goals have benefited from a general consensus of opinion in the research policy community, resulting in a consistently high level of funding for R&D regardless of which political parties have been in power. While there is and has been a high level of consensus among policy makers in Sweden concerning the need for a high and sustained level of funding for research, there has been less agreement on the governance, organization, and form of the research performed in the sector. The research policy debate today centers much on forms for knowledge creation and governance. Most debaters agree that there is a need for pluralism in the research sector and that there is a genuine need not only for free basic and applied research but also for strategic research and needs-driven research. The contention is *how much* targeted research, *what* strategic research, and *how much* freedom the research community should be allowed to exert in the formulation of research agendas and execution of research.

Sweden is one of the top OECD countries in terms of R&D expenditures per capita. In 2011, Swedish R&D amounted to 3.37 % of GDP, down from 4.3 % in the peak year 2001 but still well above the OECD average of 1.94 % (SCB 2013). That puts Sweden among the top four spenders on R&D as measured as a share of GDP. Also relative to the number of inhabitants, Sweden devotes large expenditures to R&D with 1400 PPP$ per capita, second only to Finland with 1417 PPP$ per capita (SCB 2013:14).

The bulk of the expenditure for research comes from the business enterprise sector which accounted for 68.9 % of total expenditure for R&D in 2013 or close to the OECD average of 68.4. The share of the business enterprise sector in Sweden declined gradually over the last decade from a high of almost 75 %, partly as a result of the trend of outsourcing of corporate R&D activities to new and emerging economies. Research at universities and other higher education institutions accounted for over 27 % of the total in 2013 while the remaining 4 % of research expenditure was accounted for by government agencies (3.68 %) and the small private nonprofit sec-

tor (0.22 %) (SCB 2014). With that, universities in Sweden account for a higher proportion of total expenditure on R&D than the OECD average of 17.7 %.

The state directly (through the government budget) accounts for a large share of the funding of research activities in the higher education sector. In 2011, this core funding amounted to almost half of the R&D revenues of this sector. The rest was accounted for by external financing (most of which were national research councils, central government agencies, and research foundations).

Through its funding steering mechanisms as well as other measures to better align academic research with market forces, the state has instituted a shift towards the marketization of knowledge production (Fischer 2015). Pitting market values against academic values runs the risk of circumscribing the ability and inclination of universities to engage in societally desirable but commercially unviable activities. This will be discussed more in depth below. Before that, a further aspect of inclusive development will be examined: How successful has the higher education system been in supporting social processes of inclusive development in terms of enrolment by disadvantaged groups and gender equality?

Social Inclusion in the Higher Education System

The Swedish University Law of 1992 (Högskolelagen 1992) is continuously amended to reflect changing policies and societal needs. The free education system has historically been regarded as a cornerstone in the building and sustaining of the welfare system and, as such, a great leveler of class and rank. In this respect, the University Law is an important tool in the bridging of societal differences by providing guidance for inclusiveness in and access to higher education. Up to the expansion of the university system beginning in the 1960s, higher education was a matter for a small and select group. From exclusive elite universities with a few thousand students, higher education has grown to today's mass university system with over 400,000 students engaged in studies at the university system (SCB 2016). The number of students enrolled at the universities more than doubled over the 25-year period of 1980 to 2005, from 184,000 to 395,000, providing access to higher education to previously excluded groups of students. Notwithstanding these accomplishments, the higher education system is still struggling with issues of equality, chief among these a persistent bias in the recruitment base for higher education and gender inequality.

Social Bias in Recruitment

The recruitment of students from low-income or marginal groups continues to be low despite many years of implementation of policies for inclusiveness at universities and despite its explicit inclusion as a goal in the amendment of the University

Law in 2005. The law mandates universities in general to work for economic and social welfare and justice and, in particular, to actively promote and broaden the recruitment to higher education. Some social segments of the population exhibit a lower likelihood of starting higher education. This is in particular the case of students whose parents have low educational attainment as well as students with a non-Swedish origin.

Parents' Educational Background

As an average, 44 % of the cohort born in 1988 had started university studies by the age of 25. But for students who had at least one parent with a licentiate or doctoral degree, this rate was as high as 84 % whereas the participation rate for students with parents with lower secondary education was as low as 22 % (UKÄ 2015a: 26). Moreover, there is a discernable pattern of students from differing social strata opting for different types of courses and programs; the longer and more qualified the program is, the higher is the proportion of students with highly educated parents.

Also in postgraduate studies as well as among researchers and teachers at universities, we find this pattern. In 2015, the Swedish Higher Education Authority (UKÄ) for the first time reported the background of researchers and teachers in higher education (UKÄ 2015b). Compared with the population at large, researchers and teachers at universities tend to have parents with university education. About half of all researchers and teachers at universities in the age span of 30–44 years have parents with a longer university education; the corresponding figure for the whole population is about 20 %.

Thus, despite the great achievements in expanding the access to higher education in Sweden and considerably increasing the educational level of the population as a whole, the background of the students still matters and the bias against lower educated families still lingers. Since all education in Sweden is provided for free, it is not an economic issue *per se*, but rather an intractable phenomenon of perceptions and attitudes.

Migrants, Refugees, and Asylum Seekers

For the last couple of decades Sweden has granted asylum to an increasing number of migrants from Europe and Africa, and more recently the Middle East, culminating in the 2015 arrival of 160,000 refugees and asylum seekers. Data on how the more recently arrived migrants have been accommodated by the higher education system obviously cannot be obtained yet, but studies on the inclusion of earlier emigration indicate that the university system in general has not been biased against recruitment of students with foreign backgrounds. Of the students born in 1988 with a Swedish background (at least one parent born in Sweden), 44 % began studies in higher education before the age of 25, or 2013. For two categories of students with foreign background—born in Sweden with both parents born abroad, as well as
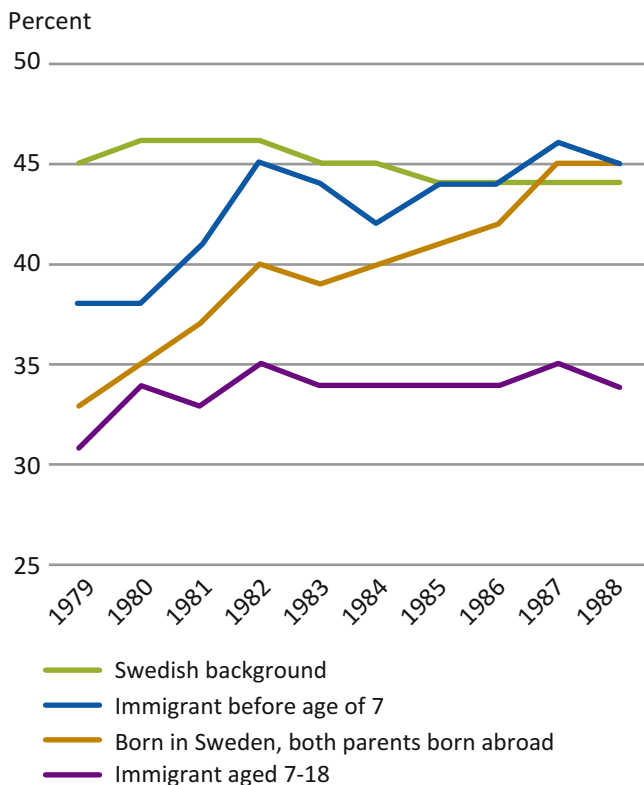
Fig. 14.3 Proportions who have begun higher education in Sweden by the age of 25 of individuals born 1979–1988 with Swedish or international backgrounds (*source*: UKÄ 2015a, Fig. 9)

born abroad but arriving in Sweden before the age of 7—the enrolment rate was even higher at 45 % in 2013 (Fig. 14.3).

The bias in recruitment of students from non-Swedish background can instead be observed in students arriving in Sweden at an age between 7 and 18. Here the participation rate is only 34 %. Thus, over time all categories of migrants but one fare equally well in attaining higher education.

Gender Balance

In the pursuit of the three missions of the universities, equality between women and men is a prerequisite in all activities. The University Law stipulates that gender equality should always be promoted and mainstreamed at all instances. The results have generally been substantial. Table 14.1 summarizes main gender characteristics

Table 14.1 Indicators on gender balance at HEIs 2001 and 2014

	2001		Total	2014		Total
	Women (%)	Men (%)		Women (%)	Men (%)	
Students	61	39	354,490	60	40	403,881
Doctoral students	45	55	18,968	47	53	18,971
Degrees awarded	64	36	48,800	64	36	69,800
Of which BA[a]	n.a.	n.a.	n.a.	66	34	22,975
Of which Master[a]	n.a.	n.a.	n.a.	42	58	7308
Of which Ph.D.	45	55	2758[b]	49	51	2843
Researchers and teachers (FTEs)						
All categories	37	63	21,865	44	56	28,937
Of which lecturers	29	71	5715	46	54	8378
Of which professors	14	86	3269	25	75	5075

[a]2002/2003 and 2011/2012
[b]2005
Source: Compiled from SCB UF20 SM 1301, UF21 SM1501, and UF23 SM 1501

of the Swedish higher education system in 2001 and 2014. As can be seen from the table, women constitute a majority of the students at universities, and have done so ever since 1977. In 2014, 60 % of the 403,881 registered students in first and second cycle higher education were women. At doctoral level, this rate decreases to 47 %. The lower rates of participation for women at advanced levels can be observed also in the number of degrees awarded. Although women account for as much as two-thirds of all Bachelor degrees awarded in 2014, their share of degrees falls to 42 and 49 % at Master and Doctoral levels (Table 14.1). This is in spite of the fact that performance indicators (measured as attainment of the credits for which they have been registered in a specific academic year) are generally higher for women (82 %) than for men (76 %) (UKÄ 2014).

If we look at the gender balance in employment at institutes of higher education, women account for a steadily increasing proportion. In 2001, women researchers and teachers constituted 37 % of all personnel in this category, a number that has increased to 44 % in 2014. Also the proportion of women lecturers has increased—from 29 to 46 % in that period. The last male stronghold in academia would appear to be the position of professor. At professor's level, only around 25 % are women although that number has increased considerably since 2001 when 14 % of professors were women.

In summary, women representation in higher education—both as students and researchers and teachers—has made considerable progress in the last couple of decades. At most levels, women account for a substantial share and even a majority in terms of university students. The low level of representation at the highest of the academic positions, the professor, is still a major concern but the proportion of women is steadily increasing over time. Replacing male professors involves a time lag before the influx of women professors will take serious effect. A positive devel-

opment is that 35 % of newly appointed professors were women in 2013 as opposed to the 23 % already appointed (UKÄ 2013). On the other hand, from a gender perspective it can also be argued that it is worrisome that the proportion of newly appointed women professors is not closer to 50 % as the rate of women representation at the level of lecturers would suggest.

Social Innovation and Social Entrepreneurship at Universities

Social entrepreneurship, social enterprises, and social innovation have received increasing attention during the last decade in Sweden as a means to counteract inequalities and discrimination. The national innovation strategy presented in 2012 highlights social innovation and social entrepreneurship as central concepts in meeting the challenges of a modern society (Ministry of Education 2012). Public institutions charged with supporting growth and competitiveness such as the Swedish Agency for Economic and Regional Growth (Tillväxtverket) and Sweden's Innovation Agency (Vinnova), as well as local governments and business hubs, have promoted the concepts in a variety of ways, including through calls for tenders, competitive bidding, support to networking activities, project seed money, and establishment of social investment funds. A mapping of the Swedish landscape for social innovation lists 39 public, academic, and nongovernmental organizations (Hansson et al. 2014). This fairly large number can be seen as a reflection of the growing awareness in Sweden of the need for finding new solutions and collaborative models for addressing social challenges (Nordic Council 2015: 165). Through interactions with one or more organizations from industry, academia, and the public sector, a social entrepreneur is defined as someone who "takes an innovative initiative to develop socially beneficial functions" and is "an entrepreneur whose objective is social benefit" (Nordic Council 2015: 200). This rather wide definition does not exclude the idea of collaboration between civil society organizations and for-profit organizations, nor does it necessarily see social innovation as restricted to social entrepreneurs and social enterprise. As Phills et al. (2008) point out, established nonprofits, government institutions, and businesses also significantly contribute to social change. In different parts of the world, we can observe co-production of social value involving the business sector, NGOs, and government institutions. One example is the the Global Research Alliance (GRA), an international network of nine well-known applied research organizations that work to promote inclusive innovation for the BoP population. GRA applies a five-point matrix, where the potential of inclusive innovations is evaluated in terms of affordability and access as well as the sustainability basis—meaning no government subsidies and in keeping with the market principles of the private sector. Another example is the Center for Social Entrepreneurship Sweden (CSES), an incubator for developing commercially sustainable business ideas and supported both by private and public sources.

The rather unclear demarcation line between social entrepreneurship and social innovation in terms of social value vs. commercial value creates a problem for fund-

ing agencies. On the one hand, social entrepreneurs are crucial in implementing social innovations that otherwise would remain inventions or ideas. On the other hand, some social ventures are sustainable in their own right, fully demand driven, and commercially viable. In policy terms, this creates a dilemma: some social innovations will never occur without some kind of support to social entrepreneurs while others are not dependent on subsidies. Moreover, social entrepreneurship may not always lead to socially desirable outcomes (Hall et al. 2012). This has prompted scholars to suggest social innovation policies to focus at "pure" social innovation and focus on where the market failure for such innovation is evident (Pol and Ville 2009). Also Borzaga and Bodini (2012) see a risk in blanket government support to social innovation and in adopting private sector strategies in enhancing the capability for social innovation. Government innovation policy in Sweden has currently not addressed this issue, nor formulated a comprehensive strategy for promoting social entrepreneurship and innovation (Hansson et al. 2014). While the general concept of social entrepreneurship is well established and incorporated in government innovation policy, the understanding of social innovation is more recent and still percolating in the policy environment.

The same can be said of the academic community. Social entrepreneurship is well established in university education. All universities in Sweden offer courses in entrepreneurship and social enterprising and many of them more specifically on social entrepreneurship. These courses are well integrated in the curricula and research structures of the larger universities and the entrepreneurial activities are supported by the internal innovation system of the universities. Social entrepreneurship and social enterprising are here often regarded as a subset or extension of entrepreneurship in general in the sense that they require a business model and lead to viable and sustainable enterprises. Universities tend to regard innovation emanating from social entrepreneurship as part and parcel of the market-led commercial innovation model and, thus, with a good fit to the internal support system for business development.

Social innovation, on the other hand, is a newer concept in HEIs and, albeit closely linked to social entrepreneurship, could also entail completely different development models and require a different set of support functions in the innovation system. Despite the increasing funding opportunities and promotional activities from public institutions for growth and innovation, universities have been rather slow in integrating social innovation in education and research. It would seem that social innovation is driven by public funding mechanisms and that university innovation systems are more geared towards meeting the needs of commercial innovation such as licensing issues, patenting, trademarks, and other commercial assessments.

The newfangled interest in social innovation does not mean that social innovation activities and social entrepreneurship in any way stand in opposition to more traditional forms of entrepreneurship promoted at universities. On the contrary, it is a potent complement to new technology and an efficient negotiator for the most societally beneficial use of new products and services. However, by focusing almost exclusively on commercial innovation and not adapting organizationally and methodologically to the requirements of social innovation processes, universities run the risk of becoming irrelevant in this type of innovation.

An examination of the websites of Swedish universities indicates that whereas all of them have some type of support for commercializing new knowledge (holding companies, TTOs, business labs, incubators, etc.), only a few have set up organizations dealing explicitly with social innovation. In the cases where social innovation centers do have been established, they appear to be treated as organizationally and operationally distinct from commercial innovation. Stockholm University established the first incubator for social innovation in 2010, aiming at providing support for young social entrepreneurs in business strategy, marketing financing, and legal aspects, and with the CSES as a spin-off.[1] At Gothenburg University, GU Holding[2] encourages social innovation initiatives since 2013 by providing support for commercialization of social innovation activities emanating from the university research and entrepreneurship. Malmö University hosts Forum for Social Innovation[3] in collaboration with the City of Malmö, the region of Scania, and the European regional development fund. Funded by public money, the Forum serves as a national platform for social innovation and social entrepreneurship by providing news, disseminating news, as well as initiating research and development projects. Moreover, it strives to bring together new constellations of partners from academia, the business community, NGOs, and public institutions supporting the advancement of social innovation. Finally, the Lund University Social Innovation Center (LUSIC) is one of the three thematic areas of the LU Open Innovation Center,[4] promoting research in social innovation, performing educational workshops, and providing support to social entrepreneurship.

The initiatives share some common traits. In terms of funding they are to a high degree dependent on external funding, usually provided by public institutions promoting social innovation activities, with little funding coming from the internal innovation system of the universities. A recent study on social innovation and social entrepreneurship in the Nordic countries confirms that actors in this area in Sweden see the lack of funding and support structures as main obstacles to the development of social innovation and social entrepreneurship (Nordic Council 2015). Moreover, it is pointed out that "there is a conflict between the cross-sectoral, interdisciplinary nature of social entrepreneurship and the way public players are organised in specialised units" (Nordic Council 2015: 194).

To this can be added the lack of incentives in the academic career path that often disregard or even penalize researchers engaged in Third Mission, non-patentable, type of research. In the case of Germany, but certainly not limited to this country, this type of research is referred to as "leisure-time activities" (Krücken et.al 2009). The rating system for global comparisons of universities adds to this by effectively disregarding Third Mission activities aimed at noncommercial innovation in general and social innovation activities in particular. Taken together, the two dis-incentives mean that there often is little interest inside the university innovation system for

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[1] http://cses.se/

[2] http://ventures.gu.se/english

[3] http://www.socialinnovation.se/en/

[4] http://luopen.lu.se/

commercial or business innovation to accommodate or raise the level of competence for working with social innovation in new structures and with new partners. Established TTOs focus at what they do best—develop and transfer technology to industry—while social innovation is very much a bottom-up process involving researchers working more out of personal interest. It would seem that for researchers, there are two separate paths for performing Third Mission/extension activities: one is to take part in the established structure for commercial innovation and another to work cross-sectorally with networks of public and private actors in addressing welfare challenges. It could be argued that at the core of this separation of social innovation from the work of TTOs at universities is the tendency of regarding commercial innovation as organically separated from social innovation as depicted in Fig. 14.1. Instead, by looking at the outcome of innovation (Fig. 14.2), activities rather than the process itself, the societal advantages of social innovation and entrepreneurship could be better reaped.

Summarizing the experiences of Swedish universities in the pursuit of Third Mission/extension activities, social innovation is a fairly new concept that still struggles to find its proper place in the university innovation system structure. The innovation systems at universities have been slow to integrate social innovation activities, which are highly dependent on external funding and often physically separated from TTOs and their focus on traditional product development. The difficulty to get researchers engaged in social innovation stems at least in part in a lack of academic incentives and consequently attracts mostly students with a personal interest in a bottom-up process.

Concluding Remarks

Sweden's approach to the concepts of inclusive development and social innovation is best understood in the context of the historic pursuit of the welfare state. The discourse that supports investments in and funding of social innovation and social inclusion is associated with the challenges that hinder the preservation of a well-established welfare society. Among these societal challenges that are critical to the economic development of the country could be mentioned the issues of an aging population and the difficulty of social, economic, cultural, and political integration of immigrants.

A pillar in the quest for an egalitarian society has been the free access to education at primary, secondary, and tertiary levels. The higher education system has been quite successful both in expanding the share of the population receiving education at universities and in broadening the recruitment base to include traditionally non-academic segments as well as students with disabilities or other disadvantages. Also in terms of gender balance, higher education has made great strides towards a better gender-balanced university, although the proportion of women professors still lags behind many other countries.

Until 1997, with the introduction of the Third Mission, there was no explicit pressure for universities to act in social development. The interpretation of that mission

has for universities in Sweden implied a focus on activities aimed at technology transfer to industry rather than supporting social innovation activities. One reason for this could be that the issue of social innovation is still quite recent whereas entrepreneurship and techno-economic innovation undertakings are well established in the curricula and practices of the Swedish universities. Another could be the academic reward system with strong incentives for researchers to engage in market-led innovation activities but less developed for un-patentable and more elusive social outcomes.

Whatever the reason, the role of social innovation has not yet been properly defined or incorporated in a university innovation system which is streamlined towards generating new products for commercial use. The innovation system for commercial innovations is well developed but organizationally and operationally disconnected from social innovation activities. Thus, there is clear division in the organization and performance of the Third Mission by the distinction made between market-led commercial innovation and non-market-led social innovation. This dual route of the Third Mission can be partly explained by clashes of differing worldviews, especially the role played by the market in the innovation process. As shown above, commercial innovation and social innovation, from a process point of view, are handled by separate systems at the universities involving different stakeholders. On the other hand, when we analyze commercial innovation and social innovation from the point of view of the outputs obtained, it can be argued that the overlap area between these two worlds may be a fertile zone to explore. A case in point is the rising interest in the concept of corporate social responsibility (CSR) and the growing realization that actions to further some social good do not necessarily conflict with a for-profit business model. Innovations generated from a social process can have market outputs as well as innovations generated in a market process can have a social outcome. To combine and harmonize these hitherto disconnected systems is the challenge for universities aspiring to support social innovation and inclusive development.

References

Arocena, R., Göransson, B., & Sutz, J. (2015, May). Knowledge policies and universities in developing countries: Inclusive development and the "Developmental University". In *Technology in society* (Vol. 41, pp. 10–20).

Bepa (2011). *Empowering people, driving change: Social innovation in the European Union*. Bureau of European Policy Advisers, European Commisssion.

Borzaga, C., & Bodini, R. (2012), "What to Make of Social Innovation? Towards a Framework for Policy Development". European Research Institute on Cooperative & Social Enterprises (EURICSE) Working Paper No. 36/12.

Credit Suisse (2015). 'Global Wealth Databook 2015'. Total net wealth at constant exchange rate (USD billion). Retrieved from http://publications.credit-suisse.com/tasks/render/file/index.cfm?fileid=C26E3824-E868-56E0-CCA04D4BB9B9ADD5.

De Mello, L., & Dutz, M. A. (Eds.). (2012). *Promoting inclusive growth: Challenges and policies*. OECD Publishing.

Etzkowitz, H. (2003). Research groups as 'quasi-firms': The invention of the entrepreneurial university. *Research Policy, 32*, 109–121.

Fischer, J. (2015). *Knowledge Compromise(d)? Ways and values of coproduction in academia*. Doctoral dissertation, Lund University.

Gidlund, J., & Frankelius, P. (2003). *Innovativa processer*. SOU 2003:90. Stockholm.

Göransson, B., & Brundenius, C. (Eds.). (2011). *Universities in transition: The changing role and challenges for academic institutions*. New York: Springer.

Göransson, B., Maharajh, R., & Schmoch, U. (2009, March), Special issue on the third mission of universities. *Science and Public Policy*, *36*(2).

Göransson, B., & Renault, T. (2015). *Innovation for whom? Universities and social innovation for inclusive development in Sweden and Brazil*. In Paper presented at the XIII Globelics Conference in Havana, Cuba, 23–25 September 2015.

Hall, J., Matos, S., Lorn Sheehan, L., & Silvestre, B. (2012, June). Entrepreneurship and innovation at the base of the pyramid: A recipe for inclusive growth or social exclusion? *Journal of Management Studies, 49*(4).

Hansson, J., Björk, F., Lundborg, D., & Olofsson, L.-E. (2014). *An ecosystem for social innovation in Sweden*. Lund University, MediaTryck

Heeks, R., Foster, C., & Nugroho, Y. (2014). New models of inclusive development for development. *Innovation and Development, 4*(2), 175–185.

Heiskala, R. (2007). Social innovations: Structural and power perspectives. In T. Hämäläinen & R. Heiskala (Eds.), *Social innovations, institutional change, and economic performance: Making sense of structural adjustment processes in industrial sectors, regions and societies*. Edward Elgar Publishing.

Högskolelagen. (1992). (University Law), Svensk författningssamling, 1992, p. 1434.

IDRC—International Development Research Centre. (2011). *Innovating for development*. International Development Research Centre.

Johnson, B., & Andersen, A. (2012). *Learning, innovation and inclusive development: New perspectives on economic development strategy and development aid*. Globelics Thematic Report. Retrieved June 10, 2014, from http://www.globelics.org/wpcontent/uploads/2012/11/GLOBELICS2012_1_Indhold_TRYKcopy.

Krücken, G., Meier, F., & Müller, A. (2009). Linkages to the civil society as 'leisure time activities'? Experiences at a German University. *Science and Public Policy, 36*, 139–145.

Lindberg, M. (2013). Den nya innovationspolitikens inkluderande ambitioner. In C. Nahnfeldt & M. Lindberg (Eds.), *Är det nå'n innovation?! Att nyttiggöra hum/sam-forskning* (p. 35). Karlstad University Press.

Ministry of Education. (2009). En akademi i tiden—ökad frihet för universitet och högskolor. Prop. 2009/10:149.

Ministry of Education. (2012). *Forskning och innovation*. Proposition 2012/13:30.

Nordic Council. (2015). Social entrepreneurship and social innovation in the Nordic countries: Initiatives to promote social entrepreneurship and social innovation. TemaNord 2015:562.

OECD. (2005). Organization for Economic Cooperation and Development, Oslo Manual, *Guidelines for Collecting and Interpreting Innovation data*. OECD Publishing.

OECD. (2011). Organization for Economic Cooperation and Development, *Divided We Stand: Why Inequality Keeps Rising*. OECD Publishing.

OECD. (2013). Organization for Economic Cooperation and Development, "Innovation for Inclusive Growth: Conference Discussion Report". OECD Publishing.

Oxfam. (2016, January). An economy for the 1%. How privilege and power in the economy drive extreme inequality and how this can be stopped. Oxfam briefing paper.

Pålsson, C. M., Göransson, B., & Brundenius, C. (2009). Vitalizing the Swedish University System: Implementation of the 'Third Mission'. *Science and Public Policy, 36*(2), 145–150.

Phills, J., Deiglmeier, K., & Miller, D. (2008, Fall). Rediscovering Social Innovation. *Stanford Social Innovation Review,* pp. 34–43.

Piketty, T. (2013). *Capital in the twenty-first century*. Harvard University Press.

Pinchot, G. (1984). Who is the intrapreneur? In *Intrapreneuring: Why you don't have to leave the corporation to become an entrepreneur*. New York: Harper & Row.

Pol, E., & Ville, S. (2009). Social innovation: Buzz word or enduring term? *The Journal of Socio-Economics, 38*(6), 878–885.

Saad-Filho, A. (2010). From Washington consensus to inclusive growth: The continuing relevance of pro-poor policy alternatives. World Economic and Social Survey 2010.

SCB. (2013). Statistics Sweden, "Research and development in Sweden 2011". UF 16 SM 1301 (in Swedish).

SCB. (2014). Statistics Sweden, "Expenditure for own R&D per sector". Retrieved March 19, 2015, from http://www.scb.se/sv_/Hitta-statistik/Statistik-efter-amne/Utbildning-och-forskning/Forskning/Forskning-och-utveckling-i-Sverige---oversikt-internationella-jamforelser-mm/8719/8726/207858/.

SCB. (2016). Statistics Sweden, Registrerade studenter efter läsår och kön 1977/78–2014/15. Retrieved April 17, 2016, from http://www.scb.se/sv_/Hitta-statistik/Statistik-efter-amne/Utbildning-och-forskning/Hogskolevasende/Studenter-och-examinerade-i-hogskoleutbildning-pa-grundniva-och-avancerad-niva/74409/74416/Registrerade-studenter/76753/.

Singh, A., Jain-Chandra, S., & Mohommad, A. (2012). Inclusive growth, institutions, and the underground economy. International Monetary Fund Working Paper 12/47.

Slaughter, S., & Leslie, L. (1997). *Academic capitalism*. Baltimore: Johns Hopkins University Press.

UKÄ (2013). Swedish Higher Education Authority, "Allt fler kvinnor bland de anställda". Statistisk analys, 2013-09-10/7

UKÄ. (2014). Swedish Higher Education Authority, Jämställdhet i högskolan efter autonomireformen. Rapport 2014:9

UKÄ. (2015a). Swedish Higher Education Authority, Higher education in Sweden, 2015 status report. Retrieved from http://www.uka.se/arkiv/rapporter/2015-06-17-higher-education-in-sweden---2015-status-report.html.

UKÄ. (2015b). Swedish Higher Education Authority, Forskande och undervisande personal ofta från hem med hög utbildningsnivå. *Statistisk Analys*, 2015-01-20/1.

WB, World Bank. (2012). A new local agenda: Democracy, inclusive development and environmental sustainability. The World Bank.

Chapter 15
Role of Universities for Inclusive Development and Social Innovation: Experiences from Denmark

Birgitte Gregersen

Abstract Seen from the point of view of inclusiveness and social innovation, having access to new knowledge and learning is the key issue, but not the only relevant. The teaching and learning model influences the conditions for inclusive development to a high degree. It is argued that especially problem-based learning (PBL) can be an efficient tool to engage students (including first-generation academics) in higher education and stimulate collaboration with external partners—including SMEs and non-favoured citizens and regions. Universities are increasingly recognised as important drivers for innovation and sustainable development, and they are expected to play a crucial role in both the policy formulation and its implementation. This chapter discusses how these 'new' views on the role of contemporary universities may influence some of the current issues related to inclusive development and social innovation in a Danish context and finally current challenges that Danish universities face in their efforts to play an active role for inclusive development and social innovation are discussed.

Keywords Denmark • Universities • Inclusive development • Social innovation • Problem-based learning

Introduction

Denmark belongs to the group of small Nordic welfare states with well-developed tax-financed health, social and education sectors. It benefits from an almost free access to higher education combined with a relatively generous state-funded scholarship programme, and a high research and innovation performance of the

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Danish innovation system. It has for many years been one of the most equal societies measured by the Gini coefficient, although income inequality has increased in Denmark as in most developed as well as developing countries.[1]

The relatively good—compared to many other countries—economic situation for Danish universities and higher education institutions (HEI) does not mean that there is no room for improvement, challenges or shortage of resources, but it does mean that the context for discussing the role of universities for inclusive development and social innovation is quite different than in many countries including most countries represented in this book. The principal dynamics and overall explanations related to the role of universities for inclusive development and social innovation might roote from the same dynamics and worldwide trends but the extent and deepness of the problems one faces and the resources to set in motion are clearly not the same. Nonetheless, a more explicit focus on inclusive development and social innovation in university teaching, research and external collaboration and engagement is relevant in a Danish context as an important contribution to thwart current tendencies towards increased income inequality, regional divergence and political and social tensions related to especially youth unemployment and immigration issues affecting the contemporary Danish society and political discourse.

Seen from the point of view of inclusiveness and social innovation, having access to new knowledge and learning is the key issue. Section "Access to Knowledge and Learning from an Enrolment Perspective" looks at access to knowledge and learning from the perspective of enrolment in Danish universities. However, not only access to new knowledge and learning in the form of formal education but also the design of the education system and the dominating teaching model influence the conditions for inclusion. In section "Problem-Based Learning as a 'Tool' for Inclusive Development" we argue that especially problem-based learning (PBL) can be an efficient tool to engage students (including first-generation academics) in higher education and stimulate collaboration with external partners—including SMEs and non-favoured citizens and regions.

Universities are increasingly recognised as important drivers for innovation and sustainable development, and they are expected to play a crucial role in both the policy formulation and its implementation (OECD 2007). Section "Universities as Drivers of Inclusive Development and Social Innovation" discusses how these 'new' views on the role of contemporary universities may influence some of the current issues related to inclusive development and social innovation. Section "Current Challenges and Policy Implications" concludes with a discussion of current challenges that Danish universities face in their efforts to play an active role for inclusive development and social innovation.

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[1] With a Gini coefficient at 0.249, Denmark was in 2012 ranked as the most equal country among OECD countries (OECD 2015).

Access to Knowledge and Learning from an Enrolment Perspective

Many of the world trends and challenges for higher education institutions are reflected in the Danish context as well, one of the most significant being the booming number of students. This section gives an overall overview of enrolment in HEI as an indicator of inclusiveness.

Enrolment

Enrolment rates have been increasing over time in nearly all countries, including Denmark who in 2012 had the highest enrolment rate (44 %) of 20–29-year-olds among the listed OECD countries (OECD, *Education at a Glance 2014*). Increasing the number of young people with a higher education has for several years been a clear policy goal. In the Danish context, the national policy goal formulated by the former government (2011–2015) is that in 2020 60 % of all young people should complete a tertiary education (short, medium or long) and 25 % a university degree at graduate (master) level. Both targets have been fulfilled since 2011, and the latest figures (2014) show, respectively, 62 % and 28 % according to the Danish Ministry for Children, Education and Gender Equality (2015).[2]

Danish students are supported by a state grant of about US$1000 a month (2015 level) plus a possibility to get cheap state loans during their bachelor (3 years) and masters (2 years) study. Grants (and loans) are, however, only given to so-called active students, defined as students that take the required exams within an academic year.[3] Although some Danish politicians from time to time discuss the opportunity to introduce tuition fees on the graduate (master) level, there seems still to be an overall consensus across political parties and labour market organisations that free education to the highest level belongs to the heart of the welfare state and that new knowledge and a high-qualified labour force are crucial in order to secure long-term growth and development of the Danish society.

The relative favourable study grant and state loans combined with no tuition fees are clearly part of the explanation of the high enrolment rate, but it also contributes to a high completion rate for both men and women, since it minimises the pressure for students to take on paid work during the study period (Danish Ministry of Higher Education and Science 2013). Around 80 % of Danish students who enter tertiary

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[2] OECD enrolment statistics takes the point of departure in actual enrolment rates for 20–29 years, while the Danish Ministry of Higher Education and Science uses a so-called profile model that calculates what level of education a 9th-grade cohort of students is expected to have in 25 years if they have the same study behavior (completion rate, propensity to continue education) as prevailing for the whole group of students in the year of forecast.

[3] Since 2006 tuition fees are introduced for non-European students. In order to compensate a few scholarships are allocated to each university to distribute to students from low-income countries.

education graduate with at least a first degree/qualification, and there seems to be no gender differences (OECD 2013).[4]

Private expenditures on tertiary education play only a minor role in the Danish context—as is also the case in the other Nordic welfare states. This is a precondition for maintaining the free access policy and a major explanation why marketisation of higher education as seen in especially the USA is not as prevalent in the Nordic countries including Denmark.

Seen through the lenses of inclusion, Open Universities, free online courses, and MOOCs are some of the means to give access to new knowledge and learning for less favoured regions and students. Most Danish universities offer a few online courses and make experiments with MOOCs, but in the Danish context these trends are not yet significant.

In Denmark, expenditure on education continued to grow during the financial and economic crisis and in 2011 expenditure on education accounted for 7.9 % of GDP (OECD 2014). However, the international economic crisis had implications in Denmark as in other countries. One important indicator is that unemployment rates went up for all age groups including university graduates. Unemployment rate of 24–35-year-old Danish tertiary graduates increased to 7.7 % in 2012—close to the OECD average on 7.4 % but still far below the unemployment rates experienced in Southern Europe (OECD 2014). Following the later slow economic recovery average unemployment rate for all groups including university graduates has been falling since 2012 and is today around 4.5 % (2015). In Denmark as in most countries university graduates have—in average—a lower unemployment rate than persons with short or no university education. This was also significant during the economic crises.

With the shift to a liberal right wing government in 2015 reduction in public sector spending has come higher on the political agenda and this has also affected the university sector in different ways, although full implementation is yet to come. One effect is different initiatives to put an end to the increasing enrolment at the university level by introducing restricted admission at selected study programmes where unemployment rates for graduates are above average unemployment. It is of course not without problems to try to manage the future demand for graduates with reference to more or less relevant unemployment rates still reflecting the repercussions of economic and financial crises.

A More Nuanced Picture Reveals Room for Improvement

A more nuanced picture can be drawn if we shift focus from the overall total enrolment trends to different socio-economic groups, be it gender, students with special needs, ethnicity, age, social heritage or location.

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[4] According to OECD, Denmark ranks third with Australia and Japan with higher completion rate that is 81 % and 90 %, respectively. It is interesting to notice that among countries with the lowest completion rate are Sweden and the USA (OECD, Education at a Glance 2013).

Students with special needs. In the Danish political debate, the term inclusion in relation to the educational system has been on and off the agenda for years, but the debate is less related to income inequalities, gender balance and social mobility and more on how to include kids and students with special needs in the educational system. All Danish educational institutions offer some minimum degree of help in relation to special needs students, e.g. educational support, exemptions in relation to curriculum and exams, accessibility and disability supplement. These important aspects of inclusiveness will, however, not be discussed further here.[5]

Social mobility. A Danish study of social mobility (Danish Ministry of Higher Education and Science 2014a, b) found that for Danish students born in 1980 only 23.8 % of students with parents having primary school as their highest education are enrolled or finished a tertiary education. For students with parents having an academic degree the share is 79.9 %. Only 5 % of young persons with non-skilled working parents complete a university degree. Some improvements have taken place as the level of education increases in general but social mobility in relation to university enrollment seems to be a long-term and different hurdle to overcome. The current government discusses if access to high school (gymnasium) should be restricted based on marks in Danish language and mathematics. If this is decided, critics argue, social mobility and entrance to HEI will be even more difficult for kids with non-academic educated parents in the future.

Gender balance. In the future more women than men are expected to complete an HE degree in the Danish context. Today, more than half of the new enrolled bachelor students are women and approximately same amount of women and men are enrolled as Ph.D. students. Interestingly, the gender difference is a fraction higher among Danish-born students than between students from other ethnic groups than Danish.[6] When subdivided by scientific discipline there are clear gender differences—that is under-representation of women within engineering and science and over-representation of women within humanities and healthcare. Despite many initiatives over the years at different levels from primary schools to university level the key to change this pattern has not yet been found.

If we look at gender distribution in relation to career stages within research (after Ph.D. degree) there is a clear gender bias. Only 18 % of the full professors are women and in this respect Denmark is clearly lacking behind most European countries. A recent report from the Danish Ministry of Higher Education and Science (2015) documents various initiatives (from mentor schemes to increased transparency in advertising and occupation of positions) at Danish universities to get more women in top research and research management positions at the universities, university boards and research councils, but progress is slow. Denmark has not followed the other Nordic countries and introduced a gender policy law based on

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[5] For an overview of various initiatives to help persons with special needs in the Danish educational system, see https://www.european-agency.org/country-information/denmark/national-overview/complete-national-overview.

[6] In 2012 the figures were 69.2 % of the young Danish females and 54.9 % of the young men were expected to complete a higher education degree. For non-Danish ethnic group the figures were 66.2 % and 52.4 %, respectively (Danish Ministry of Higher Education and Science 2014a).

gender quotas, and gender equality results are in stead expected to materialise through voluntary initiatives and good examples.

Refugees and asylum seekers. The increasing number of refugees and asylum seekers from war zones in Syria, Afghanistan and Africa hoping for a better life in Europe is very high on the political agenda in all European countries. While the Danish Government has signalled and implemented a very strict immigration and asylum policy, the Danish population seems split in their approach to this issue. At the university level very little has up to now been done at the formal level to assist inclusion of refugees and asylum seekers with a higher education background from their home country. Different initiatives might be activated such as competency assessment if refugees arrive without certificates, open and free lectures, mentoring schemes, matchmaking with other knowledge institutions, companies or entrepreneurship activities, volunteers for language teaching and scholarships. Until now such initiatives have mainly been driven by individuals and not gained much institutional support. At the European level and in other European countries more coordinated activities have emerged. For instance EU has launched a 'Science4refugees' initiative to help refugee scientists and researchers find suitable jobs that both improve their own situation and put their skills and experience to good use in Europe's research system.[7] Hopefully, this will inspire more universities to play an active and inclusive role and contribute to remedy the severe situation.

Lifelong Learning

Taken 25–64-year-olds' participation rate in formal and/or non-formal education as an indicator of access to lifelong learning Denmark and the other Nordic countries together with the Netherlands are the five countries with highest participation rate.[8] Access to new knowledge and lifelong learning is a key element in modern learning economies (Johnson and Lundvall 1994) and at the same time a prerequisite for inclusive development in the broader sense. In modern learning economies knowledge and learning capabilities need to be constantly recharged in order not to get obsolete and to maintain the capability to select, adapt and further develop new knowledge. It goes both in connection to new and changing job functions and at the individual private level where empowerment has become a key word as a prerequisite to navigate in the ocean of Internet information and self-service demands.

With reference to Amartya Sen's capability concept, Johnson and Andersen (2012) define development as the enhancement of learning capabilities. *"[k]nowledge, seen as something people can possess or have access to, has value in itself and it creates opportunities for enhanced well-being in other ways as well. It may improve peoples' job opportunities and productivity, and it may increase the utility*

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[7] See http://ec.europa.eu/euraxess/index.cfm/jobs/science4refugees for more information.

[8] Participation rate (25–64-year-olds) in formal and/or non-formal education (2012): Finland 66, Denmark 66, Sweden 66, Norway 64, the Netherlands 64, OECD average 51 (OECD 2014).

of the consumption of goods and services" (Johnson and Andersen 2012:28). Following this path Arocena and Sutz (Chap. 3 in this volume) see access to *"life-long advanced learning of increasing quality and increasingly connected with work, citizen activities, cultural expansion, and, in general, freedoms and capabilities for living lives that people value and have reason to value"* as one of the three missions characterising the *Developmental University*.

Bearing in mind that not only access to new knowledge and learning in the form of formal education but also the design of the education system and the dominating teaching model influence the conditions for inclusion next section introduces problem-based learning as a tool for inclusive development in the broader sense.

Problem-Based Learning as a 'Tool' for Inclusive Development

The growing enrolment implies inclusion of new types of students with different socio-economic and cultural background posing new challenges for the curricula. It is well known that different learning styles appeal in different ways to different individuals depending on among other factors also social and cultural background. All things equal, it takes more efforts for a young first-generation university student to break the codes for learning in relation to both the academic content and the formal and informal institutional settings in a university with long traditions than it takes for a student with parents being second- or third-generation academics. However, the size of the barriers depends not only on the individual capabilities and social and cultural background but to a large extent also on the pedagogical principles. In this section we use experiences from Aalborg University where PBL is implemented as a specific learning principle that has proved successful in order to propel both inclusiveness of a broad variety of student groups and inclusive development.

In short, PBL is a learning style and pedagogical principle rooted in pragmatic philosophy that:

- Provides students with an active role in the acquisition and creation of knowledge
- Redefines the role of the teacher in the learning process
- Creates relevant and new knowledge by interaction

Aalborg University, located in the Northern part of Denmark, was founded in 1974 in order to increase the number of young people with a university degree in the region and to create a hub for regional industrial transformation and development. It was founded with PBL as the overall pedagogical principle and learning style, and PBL is still the basic foundation for all study programmes at all four faculties: engineering and science, humanities, social sciences and medicine.

PBL is adapted in different ways across different study programmes reflecting different traditions and experiences, but some general characteristics apply to all study programmes at Aalborg University. In average, students use approximately

50 % of the study time on semester projects and 50 % on courses and seminars. Some semesters are organised with relatively more courses and others with mainly project work. Students work together in groups with 2–6 students in each group. Each group has a faculty member as supervisor who guides the students throughout the project (Aalborg University 2015; Kolmos et al. 2004).

Students choose the topic for their semester project (including bachelor and masters thesis). They have to formulate, motivate and document a relevant problem or research question as point of departure for a project. Inspirations for topics and problems come from many different sources. It may be related to an overall semester theme with related courses and semesters. It may relate to prevailing issues in the media or problems identified by companies, organisations or local communities. Problems may be theoretical or practical leading to concrete solutions to specific problems: for example policies to reduce youth unemployment in a specific region, implementation problems related to telemedicine, the future elderly care home, renewable energy solutions in remote areas, traffic jam and waste reduction.

Students choose and formulate the problems to study and to solve. They form their own groups, and they are responsible for the process and the final product. This makes students highly motivated and engaged in their study. Learning is an interactive and social process and the general experience is that the problem-based and project-organised group work creates a team spirit that secures good and relevant results and at the same time a high study efficiency. The mutual responsibility for fellow students in the project group and the final project constitutes an important part of these effects.

PBL and solution of problems require a combination of theory and practice. It improves learning because it forms a platform where students have to apply theories, methods and tools in practice; see the box below for two different types of PBL approaches. Example 1 illustrates a designed and open approach to problem solving. Students are given the challenge to help the local municipality to construct the nursing home of the future. Similar 'real-world challenges' related to transport issues, environmental issues, waste management, etc. are plentiful. Example 2 illustrates an approach where student groups at the bachelor programme in business administration have to identify and solve a business-related problem in collaboration with local firms.

Example 1: The Nursing Home of the Future
In 2009 Aalborg Municipality started a project called 'the nursing home of the future' that should be based on the newest knowledge within elderly care, architecture, design and new technologies. Aalborg Municipality formulated different challenges for solutions and students worked together from different disciplines—architects, sociologists, nurses, economists, accountants, planners, software engineers, etc. Ideas and models were created, and workshops

Example 1:   (continued)
and solution camps with elderly organisations, municipality, nurses and hand-icap organisations were established. Many of the students' ideas were imple-mented. The first residents moved in primary 2014, and experiments and student groups are still involved.

Example 2: Collaboration with Local Companies
At fifth semester at the bachelor programme in Business Administration all student groups make a semester project together with a local company. In the first 2 years of their study programme the students have followed courses in various business administrative disciplines as marketing, accounting, organ-isation and strategy, economics, finance and statistics, and the idea is to apply knowledge, models and tools to real problems or challenges in a real com-pany. The supervisor participates in the first meeting with the company. Together with the company the student group identifies what problems (or challenges) they decide to solve or study. For many of the small- and medium-sized companies in the region, such student projects are the first collaboration with the university—often leading to further collaboration either in the form of new student projects, guest lectures or research projects involving univer-sity staff.

With PBL and project-organised group work follows important additional skills that improve students' employability in the broader sense:

- Capability to work in teams—also under pressure
- Capability to understand, define, describe, analyse, present and solve prob-lems—also when problems are comprehensive and complex
- Capability to reflect, receive and give constructive critique
- Capability to combine theory and practice
- Capability to present orally and in writing
- Intercultural understanding
- Personal network
- Project management

During 40 years of practice the PBL model has proven to be a successful peda-gogical model to motivate and activate all types of students independent of their socio-economic heritage, including first-generation university students. Second, it brings relevance high on the curriculum agenda because students become engaged in solving real problems. Third, it engages students (and teachers) with local com-munity of firms, various social groups, organisations, NGOs or municipalities depending on the study programme in question and the needs of the external partner. In that way, PBL is an effective approach to involve students and universities in

inclusive development and social innovation. In other words, inclusiveness is not only a question of 'free' enrolment and financial support for less favoured groups but is also influenced by the curricula and the learning model.

Universities as Drivers of Inclusive Development and Social Innovation

Different concepts and analytical models have been put forward to reflect and analyse the increasing and multifaceted role of universities as important drivers of innovation and development. 'The entrepreneurial university' concept (Clark 1998, 2004) emphasises how universities can stimulate entrepreneurship in minds and action both internally at the university and externally in the society. 'Triple Helix' (Etzkowitz and Leydesdorff 2000) focuses on how different constellation and interaction between industry, government and academia may spur economic development. In the so-called 'civic university' (Goddard 2009), the three traditional 'missions' of the university—teaching, research and engagement with the wider community—are of equal relevance, and overlap and create synergies and breeding ground for transformative, demand-led actions in the local, national and wider world context in which the university is located. Especially the 'civic university' concept has gained a certain foothold in the European policy context for instance in relation to EU's new 'Smart Specialisation Strategy' (S3, 2014–2020) where universities are expected to play a crucial role in both policy formulation and implementation (Kempton et al. 2013; European Union 2011).

A 'Developmental University' is a university which academic mission is to foster development through democratisation of knowledge access (learning), knowledge production (research) and knowledge diffusion (Arocena and Sutz 2005; Arocena et al. 2015).[9] The different concepts emphasise different aspects but all have in common a focus on the increasing role of universities in contemporary knowledge-based innovation system, where the universities' three missions or domains (teaching, research and engagement) get more and more intertwined and interact with the wider society in multiple ways.

The PBL approach discussed in the former section is especially tailored to stimulate interaction between the three domains. The two concrete examples mentioned earlier (the nursery home of the future and the business students' collaboration with local companies) are illustrative examples on mutual benefits of interaction between teaching and learning on the one side and engagement on the other. Another example is when law students provide legal counselling for free to various social groups.

Interaction between research and engagement is well described in the literature and takes many forms. It covers collaboration with private companies reaching from counselling SMEs about new market opportunities, industrial Ph.Ds. and use of research

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[9] See Chap. 3 by Arocena and Sutz for elaboration of the 'Developmental University'.

labs to research collaboration in large research consortia. Interaction and external collaboration are relevant for all disciplines—for instance historians working with museums, engineering and science with primary and secondary schools on renewable energy, medicine with hospitals or sociologist working with the local municipality on how to reduce crime and youth unemployment in larger cities—just to illustrate the diversity of potential collaboration between research and engagement.

Interaction between teaching and learning on the one hand and research on the other is the core of research-based teaching and works both ways when research benefits from applied student projects and lab work. When all three missions or domains overlap it creates synergy and breeding ground for transformative, demand-led actions (Goddard 2009) or in other words inclusive development and social innovation. For instance, inspired by the so-called d.school—design thinking at Stanford and Potsdam University, universities all over the world—including Denmark—have created lab facilities on or off campus where students, citizens and (local) companies can exchange ideas and work together in order to find solutions to local problems. The textbox below gives an example of such activities at Aalborg University.

> "Collaboration with Business Model Design Center (BMDC) can be as a main collaborator (i.e. work package coordinator) or as a subcontractor. We work with companies and research organisations in a number of different ways, both quantitatively and qualitatively and using both noninterventionist and interventionist type methods. One of our major strengths is our business model laboratory. Finally, collaboration with BMDC gives you access to leading researchers in the field of business models, and the related areas you choose to focus on in the further development of business models in your research project.
> Our activities are primarily done in collaboration with real companies, including small- and medium-sized enterprises (SMEs), public organisations and start-ups. In our business model lab we have developed a series of flexible and generic workshop modules that span the business development exercise from creative thinking to optimising performance. Our unique set-up of facilitation, ICT, tools and physical location ensures that we can properly monitor and document development processes. So while you learn, we learn too!"
> *Source*: http://www.bmdc.aau.dk/cooperation/.

There is a wide variety among the Danish universities in their priorities and experience with various external collaboration types and partners. Such differences are due to both university *external* and *internal* interdependent factors (Gregersen et al. 2009). Important university internal factors include for instance internal priorities between and within the three missions and different traditions for external

collaboration within different scientific disciplines. Within for instance engineering and business administration collaboration with private companies is more frequent than most other disciplines.

University external factors include first of all the production and knowledge structure of the national and the regional system of innovation where the university is embedded: for instance to what extent the production structure is dominated by large R&D-intensive sectors dependent on close collaboration with universities or the university is surrounded by SMEs with only limited R&D activities and capability to work with universities. The mix of formal and informal institutions like IPR regulations, trust, accountability and labour market regulations influences both the extent and form of such research collaboration.

The division of labour between different knowledge institutions influences the role of the universities for external collaboration. Denmark has a widespread network of specific technological service institutions (GTS—Advanced Technology Group). These nine independent research and technology organisations offer knowledge, technology and consultancy, co-operation on technological and market-related innovation, testing, optimisation, quality assurance, certifications and benchmarking within different fields. They sell their services on commercial terms in Denmark and abroad and collaborate closely with the Danish Ministry of Higher Education and Science on technology-based promotion of trade and industry.[10] In many circumstances—for instance in relation to minor incremental innovations—GTS institutes are the most obvious contact for SMEs rather than universities. In countries without similar institutions as the GTS institutes, universities may play a more active role for SMEs.

Despite the economic crisis, public funding of university research has increased in Denmark. This goes both for public funding of basic research and funding from dedicated research programmes distributed by research councils. Denmark is among the OECD countries with the highest R&D investments as percentage of GDP. Two-thirds of the invested DKK 56.4 billion in 2012 (or 2 % of GDP) came from the private sector and one-third from the public sector.[11] It is interesting to notice that there is minimal cross-sector flow between main sector spending and main sector performance. Nearly all private-sector research is also financed by the private sector and nearly all public-sector R&D spending is allocated to the public sector, of which universities and university hospitals receive the lion part (Danish Agency for Science, Techology and Innovation 2014a).

There are large differences across countries and scientific disciplines in how public and private research investment is distributed. In Denmark 34 % of public R&D investment is allocated to medical and health sciences, natural sciences 21 %, social sciences 17 %, engineering and technology 14 %, agricultural sciences 8 % and

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[10] For further description of the nine institutions and their activities, see http://en.gts-net.dk/gts-institutes/.

[11] Following Korea, Iceland, Finland, Sweden and Japan, Denmark is among the few OECD countries that have reached the so-called Lisbon target with total R&D spending on at least 3 % of GDP (2 % private and 1 % public).

humanities 7%. The high share of public R&D in medical and health sciences is matched by private R&D investment reflecting a strong research-intensive pharmaceutical industry in Denmark. When the share of external funding increases in relation to basic funding, and research programmes become more dedicated to specific areas and more competitive with allocation based on New Public Management indicators, it raises the question if private external funding and research for profits get too influential on the research agenda on the expenses of research *for* the poor as well as *by* the poor or less favoured like SMEs with no or very limited opportunity to finance university research activities.[12]

However, there are several university external and internal interdependent factors that influence the research agendas of contemporary universities. In other words, tracing a direct relationship between university funding structure, research agendas and research outcome at the level of single universities is complex. Adding to this is that research and innovation targeting one area may subsequently become relevant in others because second- and third-generation innovations become cheaper or because knowledge seeks new applications with new opportunities for also less favoured social groups.

Social Entrepreneurship and Social Innovation as a New Growing Focus Area

In the Danish political context universities' third mission activities have for many years primarily been a question of stimulating university-industry collaboration. This is still a top priority and as in most countries various support schemes are established to stimulate more direct collaboration between universities and companies (Danish Agency for Science, Technology and Innovation 2014b). A new focus where teaching and learning, research and engagement may create synergy and stimulate inclusive development is related to a growing interest in social entrepreneurship, social enterprises and social innovation.

Social entrepreneurship may be defined in different ways, but here the term refers to starting new business or organizations or spin-off from existing—that are:

- "With a social purpose i.e. improve social or societal conditions and create social value
- Innovative i.e. working on new products, services or processes
- Professional i.e. not exclusively volunteer based, and working consciously to create social value for key stakeholders through value creation for customers and users
- Privately or collectively owned i.e. not publicly owned

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[12] In a developing context the term 'inclusive innovation' normally refers to innovation *for* the poor as well as *by* the poor (Johnson and Andersen 2012).

- Not-for-profit i.e. reinvesting profits to promote the social purpose" (Monday Morning 2010)

Defined that way, social entrepreneurship is not a new phenomenon but has a long tradition in Denmark in the form of association activities, the cooperative movement and self-governing institutions. Deaf Laundry (Døves Vaskeri) started in 1869 as a private laundry run by deaf women. It exists today (2015) as a modern industrial laundry service employing 24 deaf persons with varying needs for special support and 21 persons on ordinary conditions. Another example is Dannerhuset with roots back to 1873 as a crisis and counselling centre for women (Monday Morning 2010).

According to a mapping of social entrepreneurship and social innovation in the Nordic countries (Norden 2015), in Denmark social entrepreneurship and social innovation have historically primarily been driven by passionate individuals, social enterprises, civil organisations and funds.[13] However, recently this phenomenon has attracted more attention among local and national politicians as a way to mobilise people and groups that cannot—for different reasons—meet the growing demands at the ordinary labour market. In 2009 the first Danish municipality (Kolding) formulated a strategy of how to create more social enterprises, and afterwards more municipalities have followed with similar initiatives. These initiatives target both the creation of jobs for socially marginalised or disabled persons (socio-economic enterprises) and social innovation with a focus on how to solve problems by innovation for marginalised or disabled persons.

At the national level different support schemes for social entrepreneurship are available. A National Centre for Social Enterprises has been set up and according to Lauritzen (2015) around one-third of Danish municipalities are members of the Danish Municipality Network on Social Innovation and an increasing number of them are experimenting with schemes such as social impact bonds, participatory budgeting, community-led development initiatives and schemes to support social enterprises.

Danish universities are increasingly getting involved in social entrepreneurship and social innovation activities. In 2013 Roskilde University launched a 2-year interdisciplinary Master's program in Social Entrepreneurship and Management (SEM) emphasising knowledge on leadership, organising and management as well as in-depth training in social innovation processes and entrepreneurship (Andersen and Hulgård 2014); Copenhagen Business School (CBS) offers a course in social entrepreneurship, and the other Danish universities have various types of courses and events focusing on social innovations and social entrepreneurship.

'access2innovation' is an example of a university-initiated partnership between Danish universities, civil society organisations, public institutions and business.[14] The aim is to create new sustainable solutions and business models for developing countries and aid sector. Activities within this network have clear overlap to social

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[13] For instance 'The Social Capital Fund' established in 2011 by the Danish foundation 'Trygfonden'.

[14] The access2innovation network was established in 2007 by the departments of Development and Planning and Energy Technology at Aalborg University, DanChurchAid, North Denmark EU-Office, South Denmark European Office and Confederation of Danish Industry (DI). Later, more Danish universities and other partners have joined the network. See http://www.access2innovation.com/ for further information about the network activities.

entrepreneurship and social innovation but with potential overlaps to transform these activities into sustainable business in the wider sense.

As indicated above, although concepts as inclusive development and social innovation are not explicitly formulated with any high priority in neither of the eight existing Danish universities' formal research strategies or recent (2015–2017) formal development contracts with the Ministry of Higher Education, such activities exist and seem slowly to get more momentum. The next and final section discusses current challenges that Danish universities face in their efforts to play a more active role for inclusive development and social innovation.

Current Challenges and Policy Implications

Universities' external research collaboration is propelled by 'new modes of knowledge production' (Gibbons et al. 1994) as well as by sources for funding. The increasing role for universities in inclusive development and social innovation brings new challenges for the universities to find a balance between allocating resources between teaching, research and external engagement (Benneworth and Conway 2009; Kitson et al. 2009). In Denmark, state funding for universities is allocated for teaching and research but not for the engagement activities of the types mentioned above despite universities' obligations according to the University Act from 2003 to engage in such activities (Gregersen et al. 2009).

As mentioned in the introduction to this chapter, when compared to most other countries Danish universities have for many years benefitted from increasing teaching and research budgets. Nevertheless, the significant changes in the university sector influence the context in which universities have to navigate to play a more active role for inclusive development and social innovation:

- Transformation towards a knowledge and learning economy triggers an increasing role for universities and other higher education institutions in national and regional innovation systems. This is clearly reflected in the increasing amount of university-industry collaboration. It raises questions on what criteria external partners should be selected. Research potential? Financial contribution or social impact? In a situation where research budgets are tightened, collaboration with less privileged companies and social groups may be deprioritized.
- Globalisation and increasing internationalisation of teaching and research: One consequence is an increased competition to attract funding, talented students and staff. In such a context it is often difficult to give priorities to inclusiveness of less favoured groups. Another consequence is an increased focus on research excellence, elite versus mass teaching and the hierarchy of institutions (Goddard 2009), which might be at the costs of for instance broader community engagement and social innovation.
- Increased expectations to solve and engage in the grand challenges of the twenty-first century on the local, national and global level. One important issue here is

that many of the big challenges, such as ageing, health, environmental sustainability, energy, clean water and waste treatment, do not fit into the traditional disciplinary boxes but need a multidisciplinary approach to come to solutions.

- New governance structure based on New Public Management principles implying payment by performance, increasing use of key performance indicators (KPIs) and increasing bureaucracy related to increasing external (and internal) demands for accountability and auditing. To the extent that relevant indicators reflecting activities in relation to inclusive development, social innovation and community engagement are available they often are given less priorities by the university management compared to publication and citations in high-ranked journals.

To give room for inclusive development and social innovation under the above-mentioned conditions requires that universities formulate and implement an explicit strategy on inclusive development and social innovation in order to get these activities integrated and 'institutionalised' in everyday teaching and research practice. Crucial elements in such a strategy are better integration of teaching, research and external collaboration and engagement, more interdisciplinary approach in teaching and research and more focus on lifelong learning.

References

Aalborg University. (2015). PBL - Problem-Based Learning. Retrieved from http://www.pbl.aau.dk/digitalAssets/126/126933_62747_problem_based_learning_aalborg_university.pdf.

Andersen, L. L., & Hulgård, L. (2014). Social innovation and collaborative learning – MA programmes, capacity building and continues education in social entrepreneurship and social innovation. *Spor – et tidsskrift for universitetspædagogik*, 2014(4), 22–38.

Arocena, R., & Sutz, J. (2005). *Developmental universities: A look from innovation activities*. Paper presented to the GLOBELICS Conference in South Africa.

Arocena, R., Göransson, B., & Sutz, J. (2015). Knowledge policies and universities in developing countries: Inclusive development and the "developmental university". *Technology in Society, 41*(2015), 10–20.

Benneworth, P., & Conway, C. (2009). Characterising modes of university engagement with wider society—A literature review and survey of best practice, Report produced for Newcastle University's Office of the Pro-Vice-Chancellor (Engagement), Newcastle, UK. Retrieved from http://talloiresnetwork.tufts.edu/wp-content/uploads/Characterisingmodesofuniversityengagementwithwidersociety.pdf.

Clark, B.R. (1998). *Creating Entrepreneurial Universities*. Pergamon Press, Oxford, USA.

Clark, B. R. (2004). *Sustaining Change in Universities – Continuities in case studies and concepts*. Berkshire, UK: Society for Research into Higher Education & Open University Press.

Danish Agency for Science, Technology and Innovation. (2014a). Research and Innovation Indicators 2014. *Research and Innovation: Analysis and Evaluation* 5/2014, Copenhagen.

Danish Agency for Science, Technology and Innovation. (2014b). Vidensamarbejde under lub—Evaluering af universiteternes erhvervssamarbejde og teknologiøverførsel [in Daish]. *Research and Innovation: Analysis and Evaluation* 19/2014, Copenhagen.

Danish Ministry for Children, Education and Gender Equality. (2015). Profilmodel 2014–Videregående uddannelser, notat [in Danish] [Profile model 2014 – Higher education]. Retrieved from https://www.uvm.dk/Service/Statistik/Tvaergaaende-statistik/Andel-af-en-aargang-der-forventes-at-faa-enuddannelse.

Danish Ministry of Higher Education and Science. (2013). Frafald på de videregående uddannelser [in Danish]. Note February 2013, Copenhagen.

Danish Ministry of Higher Education and Science. (2014a). Anbefalinger fra Mønsterbryderkorpset [in Danish]. Copenhagen.

Danish Ministry of Higher Education and Science. (2014b). Sammenhænge mellem studerende og forædres uddannelsesniveau [in Danish]. Copenhagen.

Danish Ministry of Higher Education and Science. (2015). Women in research—bringing all talents into play, Copenhagen.

European Union. (2011). *Connecting universities to regional growth: A practical guide*, Smart Specialisation Platform. Retrieved from http://ec.europa.eu/regional_policy/sources/docgener/presenta/universities2011/universities2011_en.pdf.

Etzkowitz, H., & Leydesdorff, L. (2000). The dynamics of innovation: from National Systems and 'Mode 2' to Triple Helix of University-industry government relations. *Research Policy, 29*, 335–345.

Gibbons, M., Limoges, C., Nowotny, H., Schartzman, S., & Trow, M. (1994). *The new production of knowledge: the Dynamics of Science and Research in Contemporary Societies*. London: Sage.

Gregersen, B., Linde, L. T., & Rasmussen, J. G. (2009, March). Linking between Danish universities and Society. *Science and Public Policy, 36*(2).

Goddard, J. (2009, September). Reinventing the Civic University. *Provocation* 12, NESTA, London.

Johnson, B., & Andersen, A.D. (eds.). (2012). *Learning, Innovation and Inclusive Development— New perspectives on economic development strategy and development aid*, Globelics Thematic Report 2011/12 Aalborg.

Johnson, B., & Lundvall, B.Å. (1994). The Learning Economy. *Journal of Industry Studies, 1*(2), 23–42.

Kempton, L., Goddard, J., Edwards, J., Hegyi, F. B., & Elena Pérez, S. (2013). Universities and Smart Specialisation, *JRC Scientific and Policy Reports, S3 Policy Brief Series* No. 03/2013, European Commission.

Kitson, M., Howels, J., Braham, R., & Westlake, S. (2009, April). The Connected University— Driving Recovery and Growth in the UK Economy, Research report, NESTA, London.

Kolmos, A., Fink, F. K., & Krogh, L. (Eds.). (2004). The Aalborg PBL model–Progress, diversity and challenges. Aalborg: Aalborg University Press

Lauritzen, J. R. K. (2015). Social innovation in Denmark. Danish Technological Institute.

Monday Morning. (2010). *The Welfare entrepreneurs—A Danish strategi for social entrepreneurship*. Copenhagen.

Norden. (2015). Sosialt entreprenørskap of social innovasjon—Kartlegging av innsatser for social entreprenørskab og social innovasjon i Norden. *TemaNord* 2015:502.

OECD. (2007). *Higher education and regions: Globally competitive, locally engaged*.

OECD. (2013). *Education at a glance 2013: OECD indicators*, OECD Publishing. Retrieved from http://dx.doi.org/10.1787/eag-2013-en.

OECD. (2014). *Education at a glance 2014: OECD indicators*, OECD Publishing. Stanford Graduate School of Business Center for Social Innovation (brochure). Retrieved from http://dx.d.oi.org/10.1787/eag-2014-en.

OECD. (2015). *Income inequality* (*indicator*). doi:10.1787/459aa7f1-en. Retrieved August 15, 2015, from https://data.oecd.org/inequality/incomeinequality.htm.

Chapter 16
Universities and Inclusiveness: An Overview

Claes Brundenius

Abstract This concluding chapter gives an overview of social inclusiveness at universities in the 11 countries covered in this book. Which are the most important obstacles for young people to do higher education studies, why do such obstacles remain, and what, if anything, is being done about it? One interesting aspect of the country studies is the difference when it comes to the role of private universities and other higher education institutions (HEIs). In some countries enrolments in private universities are quite sizable, at par with public universities. In other countries private higher education is nil or negligible. There are as a rule tougher access criteria at private HEIs than at public HEIs. This goes above all for tuition fees that can be very high at private HEIs, which means that most families cannot afford to send their children to private schools. It is true that the higher tuition is often justified by the quality of teaching being considered better in private HEIs, but this is not always the case. The chapter also discusses which facilities are available to students to finance their studies: government and other stipends, and/or loans at preferential conditions.

Keywords University access • Private HEIs • Tuition fees • Student financing • Affirmative action

Introduction

The country-specific chapters in this volume have analyzed and discussed the situation at universities and other HEIs with respect to access to higher education, in many cases with in-depth descriptions of the conditions for young (and not so

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young) people to access higher education studies. I will in this overview try to summarize relevant comparable statistics and other information, to find out to what extent universities and other HEIs are socially including in the UniDev countries covered in this volume.

One interesting aspect of the country studies is the difference when it comes to the role of private HEIs. This is best shown in enrolment statistics. In some countries private HEIs are important with regard to the number of institutions, but this is not necessarily mirrored in size of enrolments. Yet, in some countries, like Brazil, enrolment in private universities and other HEIs is quite sizable, at par with public universities. In other countries private higher education is nil or negligible. There are as a rule tougher access criteria at private HEIs than at public HEIs. This goes above all for tuition fees that can be very high at private HEIs, which means that most families cannot afford to send their children to private schools. It is true that the higher tuition is often justified by the quality of teaching being considered better in private HEIs, but this is not always the case.

Level of Educational Attainment and Enrolment Trends in Higher Education

The level of educational attainment of the population is of course dependent on the enrolments at all levels of education in the past. This goes especially for higher education enrolments. So there is a strong correlation between these two in cross-country comparisons (Figs. 16.1 and 16.2). The most common indicator for comparing levels of educational attainment between countries is the *mean years of schooling* (Fig. 16.1). At the upper level is a group comprised by five countries:
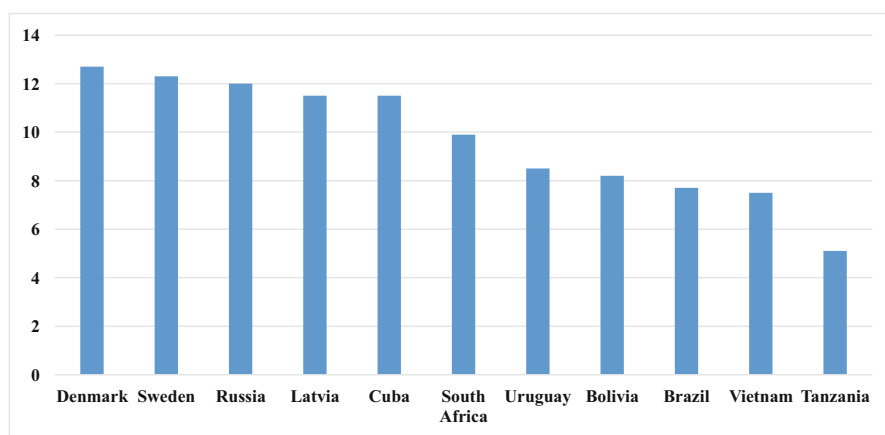
Fig. 16.1 Levels of educational attainment: mean years of schooling (population 25+) (*Source:* Human Development Report 2015 (UNDP 2015))
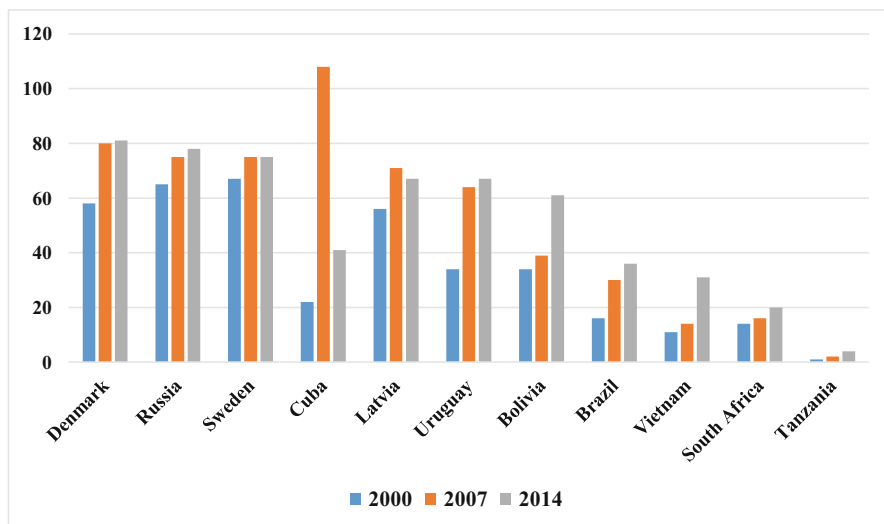
Fig. 16.2 Gross tertiary enrolment ratios 2000, 2007 and 2014 (*Source:* UIS/UNESCO (2016))

Denmark, Sweden, Russia, Latvia, and Cuba, with levels of educational attainment ranging from 11.5 to 12.7 mean years of schooling. The subsequent group is also comprised by a group of five countries: South Africa, Uruguay, Bolivia, Brazil, and Vietnam, with levels of educational attainment ranging from 7.5 to 9.9 mean years of schooling. Tanzania is at the bottom with 5.1 years.

Enrolments at universities have expanded rapidly in all the countries during the last two decades, although from different initial levels. Denmark, Sweden, Russia, and Latvia are at the top when it comes to the gross enrolment ratio[1] at the tertiary education level, which roughly corresponds to university education (Fig. 16.2). Cuba has the highest level of educational attainment (11.5 years) in Latin America. This is to large extent the result of the enrolment increase at Cuban universities during the first decade of the new millennium (Fig. 16.2). This was part of a drive for the "universalization of the university," a campaign that reached a climax in 2008 (UIS 2016), when gross enrolment ratio reached a record high of 119 %. The ratio has since fallen to a more "normal" level around 41 %. Some of the reasons for the ending of this campaign are discussed in Chap. 6.

There is also a correlation between the level of educational attainment and other development variables, such as economic level (GDP per capita/PPP$[2]), GINI

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[1] The Gross Enrolment Ratio (GER) is measured by taking total enrolments divided by the approximate corresponding age group, in the case of tertiary education: the cohort 18–25 years. This is the reason why the ratio can be higher than 100 %.

[2] PPP$, purchasing power parity, also called "international dollars." The base year is 2011, that is, the values are expressed in 2011 PPP$.

Table 16.1 Comparison of the level of educational attainment with GDP per capita, GINI, life expectancy, and infant mortality (data from around 2014)

	GDP per capita (2011 PPP$)	GINI Index	Life expectancy	Infant mortality	Mean years of schooling (pop. 25+)	Final ranking
Sweden	44,004 (1)	26.1 (1)	82.2 (1)	2 (1)	12.1 (2)	1
Denmark	42,765 (2)	26.9 (2)	80.2 (2)	3 (2)	12.7 (1)	2
Russia	23,293 (3)	39.7 (6)	70.1 (8)	8 (5)	12.0 (3)	5
Latvia	22,036 (4)	36.0 (4)	77.3 (4)	7 (4)	11.5 (4)	3
Uruguay	19,950 (5)	41.0 (8)	77.2 (5)	9 (6)	8.5 (7)	6
Cuba	19,924 (6)	40.0ᵃ (7)	79.4 (3)	4 (3)	11.5 (4)	4
Brazil	15,162 (7)	52.7 (10)	74.5 (7)	15 (7)	7.7 (9)	8
South Africa	12,449 (8)	65.0 (11)	57.4 (11)	34 (10)	9.9 (6)	10
Bolivia	6,325 (9)	46.6 (9)	68.3 (9)	31 (9)	8.2 (8)	9
Vietnam	5,370 (10)	35.6 (3)	75.8 (6)	17 (8)	7.5 (10)	7
Tanzania	2,421 (11)	37.8 (5)	65.0 (10)	35 (11)	5.1 (11)	11

Source: Mean Years of Schooling (UIS/UNESCO); GDP/capita, GINI, Infant Mortality (World Bank); Life Expectancy (UNDP 2015)
ᵃEstimate (Brundenius 2002)

Index,[3] life expectancy,[4] and infant mortality.[5] The comparison is shown in Table 16.1. The figures within brackets are the rankings. Some countries maintain their rankings more or less in all categories: Sweden, Denmark, and Latvia, while Cuba has a higher ranking in life expectancy, infant mortality, and educational attainment than in per capita income. Vietnam has a good GINI ranking, while South Africa has weak ranking in GINI and life expectancy. Russia has a low ranking in GINI and life expectancy considering that it has a rather high GDP per capita.

The Role of Private Institutions in Higher Education

The importance of private higher education differs between the countries. In some countries it is very low or negligible in terms of enrolments. This goes for instance for Denmark and Sweden. In Cuba it is nonexistent, as it was the case in the Soviet

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[3] The GINI Index is a measurement of the income distribution of a country's residents. This number ranges between 0 and 100.

[4] Life expectancy in social science is the statistical age until which a person can be expected to live.

[5] Number of infants dying before reaching 1 year of age, per 1000 live births.

Table 16.2 Share of private institutions in total enrolments at HEIs, 2000 and 2014

	2000 (%)	2014 (%)
Brazil	67.1	71.1
Tanzania	25.9	35.8
Bolivia	17.2	25.3
Latvia	13.9	26.1
Russia	9.9	15.7
Uruguay	9.2	14.4
South Africa	n.a.	14.0
Vietnam	11.3	12.5 (2006)
Sweden	4.6	4.7
Denmark	Negligible	Negligible
Cuba	0	0

Sources: UniDev country teams; South Africa (SARUA 2015)

Union and Eastern Europe before 1989. But private HEIs started mushrooming in the former Soviet Republics after the breakup of the USSR in 1991 (Table 16.2).

Private HEIs are important in Latin America, especially in Brazil where enrolments at private higher education amount to almost ¾ of the total. Private HEIs are also important in Tanzania, Bolivia, and Latvia, and they are increasing in importance in Russia. On the other hand private are inexistent in Cuba, while they exist but are small in terms of enrolments in the Nordic countries.

To What Extent Are Tuition Fees an Obstacle for Students to Access Universities and Colleges?

Access to a university may be limited for a number of reasons. One reason is of course entry exams (or minimum requirements from high school). Another reason is tuition fees. In many cases this is a serious limitation because the fee may be prohibitive to many families. Such fees may on the other hand be waived, or lowered, through support programs by the government, or the university itself. Here follows a summary of the situation in the countries covered in this volume.

Brazil

While there are no charges for tuition at any *public* institution of higher education in Brazil, there are fees charged by *private* HEIs in Brazil. The size of the fees depends on many factors, such as quality and prestige of the university

and the field of study. For illustration purposes, let us consider the annual fees of courses offered by private HEIs in the following six study fields that were the most popular at the National Secondary Education Examination held in 2015. Examples of annual average fees: Medicine US$17,194, Law US$4304, Business Management US$3784, Civil Engineering US$4237, Pedagogy US$1897, and Psychology US$3370. Public HEIs have as a rule tougher access criteria than private ones, and the quality of teaching is generally better at public HEIs.

Bolivia

There are different kinds of universities in Bolivia and they are all different when it comes to financing and the role of tuition fees. *Public universities* are those that receive direct contribution from the national budget. These universities make up a formal network under the coordination of the Committee of the Bolivian University.

There are four so-called *special regime universities*: (1) the Catholic University, a private university that is supported from tuition and fees paid by students, and other private donations, but receives treatment as a public university for other purposes. (2) The Military University that is funded by resources from the budget provided to the armed forces by the state. (3) The Police University funded by resources from the budget provided to the police force by the state. (4) Since 2010 there is also a fourth *postgraduate university*: The Andean University. It was created by the Andean Parliament (the legislative branch of the Andean Group—Bolivia, Colombia, Ecuador, and Peru). It is primarily funded by tuition fees charged to the postgraduate students, but also by contributions from the four national parliaments.

Indigenous universities are community-based universities in three ethnic regions of the country. They are funded by resources provided by the state but are not recognized to belong to the Committee of the Bolivian University, as they have no autonomic governance system.

The number of *private universities* has varied throughout the years. In 1990 the state formally recognized 6 and later 21 in 1995 (by the Ministry of Education). Between 1996 and 2013 new universities were created, and others were closed, after evaluations by the Ministry of Education or self-decision.

There are *no tuition fees at public universities*. There is, however, a nominal registration fee of less than US$100 per year depending on the university, and some faculties, such as medical faculties, charge laboratory fees as well. Tuition *fees at private universities*, including the Catholic University, vary from US$200 to US$1200 *per semester*.

Cuba

There are *no tuition fees* at Cuban universities.

Uruguay

There are *no tuition fees at public universities and colleges* in Uruguay. Academic postgraduate studies are free of charge, as well as medical specializations. Some professional postgraduate studies have fees. It is different at private universities and colleges. On the average students at private universities pay around Uruguayan pesos 12,000 *per month* (equivalent to about US$400) during the whole length of studies (average 4 years). This amount is quite high, about 78 % of an average monthly salary in Uruguay.

Tanzania

Tanzania Commission for Universities (TCU) is mandated to regulate various fees charged by the universities in Tanzania in order to access higher education. However, evidence shows that the TCU has failed to create a uniform annual fee structure for public and private universities. Annual tuition fees at *public* universities range from US$451 to US$688, while the annual tuition fees at many *private* universities range from US$917 to US$4,585.

It is a bit difficult to relate these fees to an "average wage" in Tanzania since a majority of Tanzanians work in the *informal* sector. There are large income disparities in Tanzania. The monthly *minimum* wage in the formal sector (US$46) is dwarfed when compared to, for instance, the salary of an executive, or a university professor, of around US$3200. So an average salary is as a rule too small to make families pay for children to go to university. A good thing is that loans are made available to students to ease the burden on the part of the parents.

South Africa

The question of tuition fees at universities is highly contested in South Africa (see, e.g., Leigh-Ann Naidu et al. 2016). South African public universities are funded from three sources: (1) government subsidy, which is determined in terms of a complex formula based on teaching and research needs and achievements, as well as redress funding to historically disadvantaged universities; (2) student fees; and (3) third stream funding—a mix of donations, bequests, alumni, industry (UILs), commercialization, and research funding. Some universities have built up extensive reserves over time from donors, alumni, etc.

Each university council is responsible for setting the *annual* fees and, as a result, they range widely. The data below show the costs for undergraduate degrees at the top five research universities, the most costly:

University of Cape Town: R41,500–R56,000 (US$2,780–US$3,752)
University of the Witwatersrand: R30,580–R45,050 (US$2,049–US$3,018)
Stellenbosch University: R29,093–R40,637 (US$1,949–US$2,723)
University of Pretoria: R27,750–R44,740 (US$1,859–US$2,998)
University of Kwa-Zulu Natal: R27,098–R36,557 (US$1,816–US$2,449)

These high fees are an obstacle for black and working class students. Contestation arose in 2015 led by the *#Fees must fall* movement at universities nationally. The President of the Republic was forced to intervene and acceded to the call for no fee increases in 2016. The Government agreed to assist universities to fund the shortfall, and to increase opportunities for public funding. The movement has now developed into a call for free higher education, led by those from working class and lower middle-class families who cannot hope to afford the high fees, as well as no "upfront" payments that are required for registration.

Those whose parents earn below a set level are eligible for funding from the National Student Financial Aid System (NSFAS), in the form of a no-interest loan that is repayable with interest once they qualify and start working. The loan can be converted to a scholarship if the student meets certain academic conditions. The NSFAS has been plagued by administrative inefficiencies and corruption, and there has been a low payback rate. Government has given priority to end this situation in the past 2 years and to make the NSFAS a functional system.

Then there is the "missing middle"—students from families that earn above the eligibility line, but cannot afford the high fees. These students rely on bursaries from the university, industry, or foundations, or their own earnings. Funding challenges are widely believed to be responsible for the high dropout/low completion rates across the system. There are also competitive public scholarships available for postgraduate studies from the National Research Foundation.

Vietnam

With the current rate of exchange (US$=22,000VND), the *annual* tuition fees for *public* universities are ranging from US$272 to US$400 in 2016. The fee is expected to increase to US$440–US$640 in 2020. For *private* universities, the fees are much higher, ranging from US$268 to US$2,090. However, there are many private universities that have fees ranging from US$700 to US$900.

The tuition fees at *private* universities vary a lot, depending on many factors such as field of study and language (programs in English usually charge higher fees). Each university is free to decide tuition and other fees. The average salary of government staff is about US$200 per month, or US$2400 per year. At a bit higher level, government staff salary is around US$227 to US$454 per month, or US$2724 to US$5500 per year. The university fee at a good public university is typically

around US$400, which would correspond to around 16 % of a lower end income and 7 % of a higher end income.

Russia

In 2013 the share of fee-paying students was 55 % of the total student population at the *public* HEIs. The average annual fee was US$2372 (according to the exchange rate of 2013). On the other hand, in the same year the share of fee-paying students was 99 % of the total student population at the *private* HEIs. The average annual fee in 2013 was US$1762 (according to the exchange rate of 2013). It is interesting that tuition fees at private HEIs is lower than at public HEIs in Russia. In 2013 the average monthly salary in Russia was 29,792 roubles per month, or US$910. The annual fee at public HEIs thus amounted to 2.6 times the average monthly salary (or 22 % of the annual salary), and at private HEIs to 1.9 times (or 16 % of annual salary).

Latvia

In the academic year 2012/2013 the annual tuition fees at *public HEIs* ranged from EUR 760 to EUR 6520 (or US$979–US$8396). In the same year, annual tuition fees at *private HEIs* ranged from EUR 470 to EUR 5976 (or US$605–US$7695). Like in the case of Russia *private HEIs* have usually lower tuition fees than *public HEIs*. However, in the academic year 2012/2013 over one third of the students, or 36.9 %, were exempted from paying any tuition fee at all.

The average monthly salary was in Latvia in 2014 equivalent to US$916, which means that the tuition fees at the lower end corresponded to about 9 % of the annual average salary at public HEIs, while about 5.5 % at the private HEIs.

Sweden

There are no tuition fees at public universities for Swedish or EU citizens, including citizens from the EEA (European Economic Area: Iceland, Norway, and Liechtenstein) plus Switzerland. There are *tuition fees at two private HEIs*: Stockholm School of Economics and Chalmers University of Technology in Gothenburg, with *annual* tuition fees ranging between US$2,000 and US$2,500.

Denmark

There are no tuition fees at public universities for Danish or EU citizens, including citizens from the EEA (European Economic Area: Iceland, Norway, and Liechtenstein) plus Switzerland. There are a few smaller private HEIs with varying tuition fees.

Table 16.3 Overview of tuition fees in relation to average wage in the UniDev countries (data from around 2013/2014)

	Annual tuition fee (equivalent US$)		Average wage (equivalent US$ per month)	Fee as % of average wage (per year)	
	Public HEIs	Private HEIs		Public HEIs	Private HEIs
Bolivia	237	400–1,200	251	8	13–42
Brazil	0	1,800–17,000	800	–	19–177
Uruguay	0–100	4,800	512	0–2	78
Tanzania	451–688	917–4,585	45	83–127	170–849
South Africa	1,816–3,752	n.a.	(Average) 1939 (minimum) 130	8–16 116–241	n.a.
Vietnam	272–400	700–2,090	200	11–17	29–87
Russia	2,372 (average)	1,762 (average)	910	22	16
Latvia	979–8,396	605-7,695	916	9–76	5.5–70
Sweden	–	2,000–2,500	3,694	–	4.5–5.6

Source: Country team data

So back to the question: Are tuition fees a burden for students? Well, it is clear that it varies greatly between countries (see Table 16.3). In some countries there are no fees at all at *public* universities: Brazil, Cuba, Denmark, and Sweden. Fees at *private HEIs* are as a rule higher than at public HEIs. However, in Russia fees are actually less at private HEIs than at public HEIs. In Latvia tuition fees are more or less the same whether public or private. However, fees can vary enormously between universities. HEIs with higher fees claim that they have better quality, although this is not necessarily always the case.

In some countries tuition fees at some private universities are prohibitively high. For instance in Brazil the annual tuition fee at the medical faculty of a private university is US$17,000, or almost twice the average annual wage. In South Africa fees at public universities are surprisingly high and this has led to violent student protests, as discussed in Chap. 10.

The Role of Government Financial Support to University Students

Brazil

From the beginning of the 2000s, the federal government created three special programs to ensure access and permanence in HEIs, both public and private, for socio-economically vulnerable students: the programs PNAES, PROUNI, and FIES. These programs are discussed at length in Chap. 4.

Bolivia

Until 2006 there were no state-supported mechanisms for student support (see Chap. 5). Most public universities provide support to students of poor communities from the rural areas or suburban settings. This support takes the way of free access to cafeteria services, medical health, and free tuition. In many cases these resources come from local governments. Present legislation provides that these universities grant fellowships to liberate 10 % of tuition and fees (they get a discount of 10 %).

There is a large number of privately financed support mechanisms to university students. Some of these mechanisms have been created by catholic organizations, and to a minor extent other religious groups. Some have been created by NGOs with foreign contributions, while others have been created by multinational and state enterprises, and also private enterprise associations. Some mechanisms consist of grants, and others of loans. These programs normally target low-income groups. Support is for full tuition fees and as a rule also living expenses.

Cuba

The Cuban situation is a bit difficult to describe. In principle government support to university students is rather generous. There are no tuition fees in Cuba and access to higher studies is open to everybody having passed the entry exam. The monthly stipend is currently, for all students at the university level, 50 pesos per month during the first and second years, 75 pesos during the third and fourth years, and finally 100 pesos in the fifth year. This was a rather reasonable living level in the 1980s (100 pesos was more or less equivalent to 50 % of the average wage). After the collapse of the Cuban economy after the demise of the Soviet Union in the early 1990s (see Chap. 6), the real value of the peso shrank rapidly, and dramatically, and 100 pesos is today just about equivalent to US$4. However, some basic products are still rationed and these are distributed at very low subsidized prices to the population.

Other kinds of government financial support could be mentioned. Students who do not live in the town where the university is located receive free room and board at the university campus. These students also get subsidized (50 % off the regular price) travel once a month when they visit their hometowns or villages, and twice a year they get free transport between the university and their home towns.

Loans also exist. Students can ask for loans and, if approved, they can get up to 100 pesos every month. The loan should be returned gradually after the graduation, but if they graduate with the maximum mark (5 points) they are exonerated from paying back, and if they graduate with marks between 4.5 and 4.9 they only have to return 50 % of the loan.

Uruguay

Government support for students of the Universidad de la República takes the form of fellowships financed by a solidarity system (the Solidarity Fund), established in 1994, by fixed annual amounts paid by all graduates from the university after 5 years of concluding their university studies. During 2014 the Solidarity Fund gave 7455 fellowships, 78 % of which were granted to women and 85 % to students coming from the countryside. 17 % of the students that graduated from the Universidad de República in 2014 received such fellowships. The fellowships depend on the socioeconomic situation of the student.

Tanzania

After independence in 1961, the government decided to cover the tuition fee and also paying stipend for students in higher learning institutions. However, in 1974, the government abolished its support and directed all the responsibilities of paying for all higher education costs to those parents who had children admitted in public higher education institutions. The government failed to finance free public higher education and in 1980s cost-sharing policy in higher education was announced. It was stated that the introduction of cost sharing in higher education was meant to maintain the quality of academic programs, to encourage needy students to attend higher education, and to improve access to higher education while at the same time containing government expenditures in higher education.

The policy has been implemented in three phases. Phase one started from 1992/1993 whereby students and parents were required to pay for their transportation costs to and from their respective universities. Phase two started from 1994/1995 whereby students were required to pay for meals and accommodations, in addition to transportation costs to and from their respective universities. The last phase started in 2004/2005 and parents as well as students were required to meet partial payments through loans to cover tuition fees, books and stationery, special faculty requirements, field training, and research (URT 1998).

It is claimed that the cost-sharing strategy has been an obstacle for marginalized social groups to access higher education. Following this complaint and heated debates on cost sharing to university students in 2004, the government established the Higher Education Students' Loan Board (HESLB) under the Higher Education Students' Loan Board Act No. 9 of 2004 that commenced operations in July 2005. The role of HESLB is to manage a students' loan scheme, primarily to facilitate access to higher education by students whose parents cannot afford to pay for them. Under the scheme, all university students, regardless of family situation, are eligible for the loan (Mwamila and Diyamett 2011). This was the government's attempt to attain inclusive education through provision of loans. The loan covers tuition fees, books and stationery, meals, and accommodation. Students are required by the HESLB to pay back the loan as soon as they get a job.

South Africa

Students whose parents earn below a set level are eligible for funding from the National Student Financial Aid System (NSFAS), in the form of a no interest loan that is repayable with interest once they qualify and start working. The loan can be converted to a scholarship if the student meets certain academic conditions. The NSFAS has been plagued by administrative inefficiencies and corruption, and there has been a low pay back rate.

The problem of the 'missing middle' has received much attention recently. Students from families that earn above the eligibility line, but cannot afford the high fees. These students rely on bursaries from the university, industry or foundations, or their own earnings. There are also competitive public scholarships available for post-graduate study from the National Research Foundation. Funding challenges are widely believed to be responsible for the high dropout / low completion rates across the system.

Vietnam

Most scholarships and other financial support go to students at *public universities*, which includes free tuition, or reduced fees (60–70 % off). This has been considered unfair since many students come from poor families that study at private universities, students that cannot benefit from the scholarship provided by government.

For public universities, the regulations on reduction of tuition fees and other fees are divided into two main categories: (1) total reduction (100 %) of fee for poor children, children of war invalids, martyrs, those coming from rural and mountainous areas or ethnic minorities, or students who are orphan without both parents and (2) reduction of 50 % or less vulnerable groups.

There are also *other types* of scholarships: (1) scholarships that cover tuition and other fees, mainly for students of good performance; (2) there can also be additional scholarships for excellent students, depending on the capability and resources of each university; (3) merit-based scholarship could be 3,120,000 Vietnamese Dong (VND), or around US$150; (4) so-called policy scholarships which refer to a special policy for disadvantaged students, for students from ethnic groups, from mountainous and remote areas, amounting to 4,320,000 VND, or around US$200 per year. Such scholarships could cover meal, room and board, books, supplies, and medical insurance.

In addition, there are a many scholarship (grants) schemes offered by companies and associations that promote learning, specifically for mountainous people. But there are also loan schemes so that students can borrow money for studies. For example, one such loan scheme is from the UOB Foundation (United Overseas Bank of Singapore) and Vietnam National University in Hanoi, amounting to 10 million VND (around US$460) to cover fees, with 0 % interest. Many of these scholarships and schemes depend to a large extent on family income.

Russia

There are different kinds of *public* scholarships (privately funded scholarships also exist) being paid to students *monthly. Public academic scholarships*: minimum 1340 roubles, or US$22, per month, aimed for well-performing students. The best-performing students can receive higher monthly sums.

Public social scholarships: minimum 2,010 roubles, or US$32. Does not depend on students' academic performance. Provided to vulnerable groups of population (disabled, orphans, etc.). *Public scholarships for graduate and doctoral students*: minimum 6,000 roubles, or US$97, for graduate candidate students, and 10,000 roubles, or US$161, for doctoral students.

Presidential scholarship: 2,200 roubles, or US$36, for students, 6,000 roubles, or US$97, for graduate candidate students. Personal scholarship provided for outstanding academic achievements. *Government scholarship:* 1,400 roubles, or US$23. Personal scholarship provided for outstanding academic achievements. *Local government scholarships* (no limit): Personal scholarship provided for outstanding academic achievements.

Many public universities provide their own scholarships (so-called university scholarships) to individuals. Moreover public HEIs are allowed to allocate among their students scholarships established by business enterprise institutions and NGOs. Each student can obtain several scholarships simultaneously. For instance, at the Higher School of Economics (HSE) university scholarships are provided by faculties on a competitive basis and vary from US$100 to US$200 per month. There is also a university scholarship, "silver nestling," granted for achievements in studies and research (minimum US$160 monthly). At the same time HSE provides monthly scholarships from foundations, as well as from companies and banks.

The public social scholarships are dependent on family income level, personal situation (disabled, orphan, member of a large family, etc.), regional coefficients, etc. There are also other types of scholarships that do not depend on the income level.

Latvia

Part of the students subsidized by the state receive *scholarships*, which are allocated on a competitive basis. The minimal amount of a *monthly* scholarship is EUR 99.60 at bachelor and master levels (or US$128), and EUR 113.83 (US$147) for doctoral studies. There are in addition quite a few scholarships offered by foundations, private companies and private persons, available to students on a competitive basis.

There are two kinds of state-guaranteed *loans* for students:

1. *Study loan*—covering the tuition fee (for both full-time and part-time students): The study loan cannot exceed the amount of the tuition fee at the respective program and the upper limit set by the state by thematic fields, levels, and forms

(full/part time) of education: EUR 1,112–EUR 6812 at bachelor level, EUR 1,662–EUR 10,212 at master level, EUR 3,312–EUR 20,410 at the doctoral level. The interest rate is 0 % during the study period and the period until repayment of the loan is begun (11 months after graduation or 2 months after expulsion); the annual interest rate after this period cannot exceed 5 % (in 2015 it was 2.55–2.61 %).

2. *Student loan*—covering means of subsistence during studies (only for full-time students): The student loan cannot exceed EUR 170.74 per month; this loan is being paid 10 months a year (September–June) and the interest rate has to be paid each month from the moment the first payment is made by the bank.

Sweden

The scheme has two parts: a stipend (grant) and long-term loan with low (subsidized) interest rate. The stipend amounts to 3168 SEK per month (or EUR 328) during 10 months (two academic semesters). One year at a time. The student must show results from exams in order to continue getting the stipend. In addition students can get student loans: 8047 SEK per month (or EUR 833 per month).

Repayable during max. 25 years. Four annual amortizations plus interest. Possibility to defer payments because of unemployment or illness.

Denmark

The scheme also has two parts: a stipend (grant) and long term loan with low (subsidized) interest rate. The stipend amounts (2016) to 5941 DKK per month (or EUR 797 per month). The student must document that they are active students by attending the required exams in order to continue receiving both stipend and loan. Grants are given as a voucher with a maximum of 70 portions for a 5 years study program. It is also possible to get loans amounting to 3038 DKK per month (or EUR 405).

Are There Affirmative Action Programs to Facilitate Access to Higher Education for Disadvantaged or Vulnerable Students?

Brazil

In 2000, although comprising 45 % of the Brazilian population, the percentage of black and brown having completed tertiary education was only 2 % and 12 % of that total, respectively, compared with 83 % of the white population (Moehlecks 2004). In order to address this historic deficit there is a program known as racial and social quotas. This quota program is described and discussed in detail in Chap. 4.

Bolivia

There are no specific affirmative action-type programs, but the creation of *indigenous universities* by the current government responds to a policy of promotion of ethnic groups.

Cuba

There are no specific affirmative action programs.

Uruguay

Just the Solidarity Fund mentioned above.

Tanzania

The Government of Tanzania has taken several affirmative actions to promote enrolment in higher leaning institutions. For instance, following continuous decline of female representation in universities, government allowed universities to have pre-entry program for women with lower qualifications. This was designed to help raise the number of women in universities.

Due to the high competitions that resulted from the large number of loan applicants, in 2006 a special criteria was instituted in the provision of loans. It is stated by HESLB that students who are considered for loan should first meet the academic requirement by having high performance as stated in the guidelines. Only those who pass very well in their advanced-level examination qualify for the loan. For female students, those who scored Divisions I and II in the National Form VI Examinations get the loan, while for male students it is only those who obtain Division I that get the loans (Mwamila and Diyamett 2011). For those with diplomas, those students who obtained an average of C in their technical certificates got the loans (Nyakunga 2011). This created many problems for students from poor families. As it turns out HESLB in Tanzania has encouraged exclusion instead of inclusion! Only a small fraction of the society actually enjoys the benefits. And since the loan access is based on merit (Division I and II), the wealthy children who have attended the best primary and secondary schools are the ones that are more likely to get Division 1 and II and thus more eligible for loan access than those who are from poor families who attended poorly serviced primary and secondary schools.

Following these complaints HESLB introduced a new measure of loan allocation called Means Testing to identify students from poor families and those from the rich families. This method requires the loan applicant to state the economic status of the parents as well as their primary and secondary education background (whether government or private). From the HESLB perspective, a needy student is a student with one or more of the following characteristics: orphan, poor family, disabled poor parents, poor single parent, poor marginalized, and disadvantaged groups, such as young females and students from low-income families earning equivalent to or below the national minimum salary (Nyakunga 2011).

South Africa

Since 1994 there have been a number of programs to redress the racial and gender imbalances in enrolment, to ensure that more African and female students have access to higher education opportunities. There are schemes to incentivize and fund Women into Science and Technology. There are bursaries from para-statal companies and private-sector firms, as well as universities and public foundations. Universities have developed tuition programs to support bright students with poor schooling backgrounds who are not sufficiently prepared for university study: foundation programs that add an extra year onto a 3-year degree and extension programs. Universities challenged government and in the last few years, public funding for these programs has increased. Sectoral Education and Training Authorities have set up schemes to ensure the qualification of black professionals, in fields such as accounting. Strong research universities support weaker historically black universities in terms of strengthening their capacity to offer programs, and the students on these programs are provided funding and extensive study support.

Vietnam

The government has a policy that aims at pre-selecting (reduced entry exam requirements) students, in a so-called delegate and select pattern. These students, who graduated from special high school for ethnic minorities, were delegated by their own communities, schools, and organizations to be selected by universities, and will return to those places after graduation. Most of these policies related to ethnic minority students and poor communities of remote areas and provinces, including female students from these groups. The Ministry of Education and Training also cooperates with some companies and women associations to provide special scholarship schemes for female students who have proven good performance in studies or in research.

Latvia

The allocation of state budget funded scholarships for HEI students rests on the prevalence of academic achievements and scientific excellence. The social situation of the applicant is only a secondary consideration, relevant only in case of equal academic achievement. Nevertheless, the recent amendments (15 December 2015) to the regulations governing state-guaranteed study and student loans stipulate that *persons with the first and second group of disability* will no longer require an additional guarantor (individual person or municipality) to be granted either one or both kinds of loans for students. Before that the state as the only guarantor could be used only by *orphans and children left without care of both parents* (until the age of 24). At the same time persons granted the status of low-income family (person) were not included in this group, as advocated for by the student union.

Repayment of study and student loans can be extended if the person granted the loan is on the *prenatal or maternity leave or parental leave* (until a year and a half), after graduation *continues one's studies* at another programme, or is granted the status of an *unemployed* (but no longer than 2 years). In addition, in case a person has a newborn child during the study or loan repayment period, the loan is discharged by 30 % of the remaining sum for each child. The loan, interest, and penalty are paid off in case of death or newly acquired *disability* (first and second group of disability) of the person.

No quotas with regard to enrolments are being applied by HEIs regarding such criteria as ethnicity, gender, disability, and income level.

Russia

Such schemes are described and discussed in detail in Chap. 12.

Denmark

There are no particular affirmative action programs for disadvantaged students in Denmark, except for disabled students who receive a supplement to the stipend after application and can get specific help and support during the study period and exams.

Sweden

There are no particular affirmative action programs for disadvantaged students in Sweden.

References

Brundenius, C. (2002). Cuba: The retreat from entitlement? In C. Abel & C. M. Lewis (Eds.), *Exclusion and engagement: Social policy in Latin America*. London: Institute of Latin American Studies.

Moehlecks, S. (2004). Acões afirmativas no ensino superior: Entre a excelência e a justice social. *Educação e Sociedade Campinas, 25*(88), 757–776.

Mwamila, B. L., & Diyamett, B. (2011). Tanzania: The evolving role of universities in economic development. In B. Göransson & C. Brundenius (Eds.), *Universities in transition: The changing role and challenges for academic institutions*. New York: Springer.

Leigh-Ann Naidu et al. (2016) How to take free public education from pipe dream to reality. retrieved at: https://www.wits.ac.za/news/latest-news/in-their-own-words/2016/2016-06/how-to-take-free-public-higher-education-from-pipe-dream-to-reality.html.

Nyakunga, R. Z. (2011). *Cost sharing and academic performance: A case of Mzumbe University*. Tanzania: Morogoro Main Campus.

SARUA. (2015). *South Africa Data File 2012*. Retrieved from http://www.sarua.org/files/Country%20Reports%202012/South%20Africa%20data%20profile%20Eng.pdf.

UIS/UNESCO. (2016). Retrieved from http://www.uis.unesco.org/Education/Pages/mean-years-of-schooling.aspx, http://data.uis.unesco.org/Index.aspx?DataSetCode=EDULIT_DS.

UNDP. (2015). *Human Development Report 2015*. Retrieved from http://report.hdr.undp.org/.

UniDev Country Team Data.

World Bank (2016). *World development indicators.* Retrieved from http://data.worldbank.org/indicator/NY.GDP.PCAP.PP.KD.