The Role of Education for Sustainability in the Sustainable Development Goals—Changing Policy and Practice?

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Abstract

The key focus of this paper is on the crucial role of education and learning in achieving the global shift of policy and practice which is needed in order to implement the sustainable development goals (SDGs). As highlighted in 2015 by the International Council for Science (ICSU) and the International Council for Social Science (ISSC) 'Education has been recognized for many years as a critical factor in addressing environmental and sustainability issues and ensuring human well-being'. This paper will argue that in order to achieve the SDGs it is an imperative to embed education for sustainable development (ESD) within all future policy and practice. It will examine the relationship between Education for All (the focus on basic and primary education in the Millennium Development Goals) and ESD. It will refer to the work of UNESCO in trying to develop synergy between these two policy approaches. It will argue that neo liberal agendas of marketisation and privatisation of education have impeded progress in re orienting systems towards sustainability. However, it will then indicate that there are some small signs that the global paradigm of neo liberalism is beginning to shift and that this will present opportunities to open up space and to highlight the need for ESD. The main focus of this paper will of necessity be on formal education though some reference will be made to the role of informal social learning and non-formal education. This research has been carried out with the support of colleagues in the disciplines of political science and education and has been subject to peer review at a number of fora including a social science seminar series at LSBU, a panel of the specialist group on

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Environmental Politics at the UK Political Science Association Conference, a research panel at the Uganda EFS Conference and at the Mid West American Political Studies Association Conference. The research process has drawn heavily on the authors' experience over 21 years of working in the area of education, politics and policy change, it has involved desk based reviews of a large number of UN and UNESCO policy documents and discussions with a number of policy makers and practitioners. The paper also draws on research from a range of countries and makes reference to masters research dissertations by scholars of the MSc Education for Sustainability at LSBU.

Keywords
Sustainability · Education · Policy and practice · Paradigm shift

1 Introduction

The Paris Conference Of the Parties (COP) in December 2015 represented a clear acknowledgment by all member states that humanity is at a pivotal moment when future decisions on policy and practice will effectively determine our future survival as a species. The changes needed to chart a course towards sustainability and to prevent the worst effects of climate change are immense and require a major change of behaviours and practice in the social, economic and the environment realms. This of necessity will entail education, innovation, creativity and learning new ways of relating to the natural world of which we are a part.

Since the Millennium Development Goals (MDGs) come to an end in 2015 the new global policy framework has coalesced around the 'Sustainable Development Goals' (SDGs). The need for a more sophisticated and integrated set of future goals has long been identified (Sachs 2012), to bring more policy cohesion and to link environmental concerns with economic and social concerns and moves towards a process of sustainable development. The Stiglitz Report (Stiglitz et al. 2009) and others have also highlighted the need to move from a narrow use of GDP to measure economic success to one which is more related to human well being and flourishing. An emphasis on economic growth at any price has led us into an unsustainable impasse, with recession, low wages and a noticeable lack of attention to environmental concerns. At the same time, man made climate change, as well as posing an existential threat to the animal species and the whole ecology of the world, is the biggest threat to the continued existence of humankind (Stern 2006; IPCC 2013; Klein 2014). A consensus is now developing that we are in a new geological era of the anthropocene with human activity becoming the key influence and threat to the future of our planet.

Some noticeable changes of policy and practice have been taking place over the last 20 years, such as the 1997 Kyoto Protocol, the 2008 UK Climate Change Act and the emerging Green Economy agenda. Most recently the agreement reached at the Paris COP 2015 offers some more promising ways forward. But so far this has only just touched the surface and not led to substantive change. A number of the so called 'developing' nations (such as low lying Bangladesh and the Maldives) are under the gravest immediate threats but the global changes in the climate mean unprecedented challenges for every nation (IPCC 2013). These threats cannot be confined to national boundaries and will require global policy responses so the international community needs to start to address these at the global level. The achievements of the MDGs (2000–2015) have illustrated the potential of global policy making to make inroads into a range of global issues such as the education and poverty gap but there is a danger that without radical future commitments these achievements may not advance. This was highlighted in the UNDP Report of 2007 which drew particular attention to the impact of climate change on the achievements of the MDGs, 'Looking to the future, the danger is that it will stall and then reverse progress built up over generations not just in cutting extreme poverty, but in health, nutrition, education and other areas' (UNDP 2013: 1). The development of the SDGs offers the potential to move policy and practice in a new direction and put the world on a course which promotes human well being and development within the ecological and planetary boundaries of our Earth.

2 The Sustainable Development Goals and the Role of Education and Learning

According to a report by the International Council for Science (ICSU and the International Social Science Council (ISSC) (2015) 'the proposed Sustainable Development Goals offer major improvements on the rather fragmented Millennium Development Goals (MDGs). The SDG framework addresses key systemic barriers to sustainable development such as inequality, unsustainable consumption patterns, weak institutional capacity, and environmental degradation that the MDGs neglected.' However, this report also highlights key weaknesses, in particular it notes that

- The SDG framework would benefit from an overall narrative articulating how the goals will lead to broader outcomes for people and the planet. An overarching goal could be formulated, for instance in the political declaration framing the Post-2015 Development Agenda, binding together the 17 goals, thus providing a clearer means-to-end continuum.
- The current SDG framework does not identify the wide range of social groups that will need to be mobilized to deliver on the goals as agents of change alongside governments (CSU, ISSC 2015).

Educators form one of these key social groups but unfortunately (as with Agenda 21 1992) they are not formally acknowledged. There is a single Goal 4 on education which does, nonetheless, offer a much broader perspective than the education goals of the MDGs, with the emphasis on quality as well as quantity in the commitment to 'ensure inclusive and equitable quality education and promote lifelong learning opportunities for all'. The focus on lifelong learning is to be greatly welcomed, however, there is no overview of the key role that education and learning will have to play in order to achieve all the 17 goals. Urgent changes in policy and practice at the global as well as national levels are needed. However, in order to change policy and to change attitudes and behaviours then it is clearly an imperative (in democracies especially) to develop public understanding and support for these agendas. Politicians find it very difficult to enact the 'brave decisions' needed to make radical change without the support of voters. They are also frequently surrounded by powerful lobby groups (such as the oil lobby) who have only their sectional interests in mind. The dilemma over the Keystone XL pipeline is an example of this where the environmental lobby was pitted against the powerful energy lobby in the USA.

However, the SDGs do represent a much more integrated, holistic view of world development than the previous MDGs which failed to integrate environmental goals with development goals. Unlike the MDGs they emerged after a huge process of consultation and engagement with policy makers, business and communities across the world, the UN Open Working Group then identified 17 SDGs. These consultations generated inputs into global policy making from individuals and groups in 88 countries through meetings and conferences, on-line discussions, and larger public debates in the participating 88 countries. This stakeholder involvement offers much more potential for ownership and participation of relevant groups and communities. This is essential to make them happen, in particular, the involvement of the education community.

If we just look at two of the SDGs, it is quite clear that these cannot be achieved without education. Goal 14 is a commitment to 'Conserve and sustainably use the oceans, seas and marine resources for sustainable development' and goal 15

'Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss'. These goals require a combined effort between policy makers, public and business leaders to change behaviours and practice. Without considerable public awareness and support, politicians (especially in democracies) will find it very difficult to enact policies which involve a necessary paradigmatic shift in change to lifestyles and behaviours. Hence the importance of education and public awareness raising, but also the necessity for *knowledge* of biodiversity and sustainable land use which will enable informed policy making.

If an informed public is essential to achieving the SDGs then according to the 2013 UNESCO Global Monitoring report on the education goals of the MDGs 'Education helps people understand democracy and promotes the tolerance and trust that underpin it, and motivates people to participate in politics. Education also has a vital role in preventing environmental degradation and limiting the causes and

effects of climate change. And it can empower women to overcome discrimination and assert their rights. Education improves people's understanding of politics and how to participate in it.' In terms of political understanding UNESCO highlight the fact that 'across 12 sub-Saharan African countries, 63 % of individuals without formal schooling had an understanding of democracy, compared with 71 % of those with primary education and 85 % of those with secondary. People with higher levels of education are more interested in politics and so more likely to seek information.' Furthermore, 'By improving knowledge, instilling values, fostering beliefs and shifting attitudes, education has considerable potential to change environmentally harmful lifestyles and behaviour' (UNESCO 2013).

Education is also important to enable local communities to protect land and ecosystems. Research by Vicent Muhumaza in the Albertine region of Uganda for his ESD masters' dissertation identified that a lack of even basic education among many local communities left them vulnerable to the destruction of ecosystems and land grabs and unable to claim their rights (Wade R with Muhumaza V: 2015, 157). Local and indigenous communities are often best placed to understand the complex biodiversity interactions of environments and may have tried and tested ways of living sustainably with the natural world. This knowledge can be equally as valuable as western scientific knowledge but is rarely recognised as such because within the politics of knowledge the latter is prioritised. Robin Wall Kimmerman (a native America botanical scientist) draws on western scientific research as well as traditional indigenous knowledge to demonstrate the value of the synergy between the two. She highlights the anthropocentrism of our educational and political system and argues that we have learnt much and indeed have much more to learn from the natural world if we would only pay more attention to all livings things as co creators of the world (Kimmerman 2016). This point of view could be challenged as overly ecocentric, yet she is not arguing that it take the place of scientific thought, but rather that indigenous knowledge and ways of being are also relevant and important. In relating this to global policy making, one might conclude that until we see the need to give the natural world a place at the negotiating table, humans will continue to view nature as theirs to dominate and over use. In the form of climate change nature is speaking out but unfortunately, nature continues to be seen in global policy terms mostly as a resource for humans than of intrinsic value in itself. ESD aims to find a balance between the environmental and the social, to promote ecological and social justice and as such involves different ways of living and being and relating with the natural world. This is counter hegemonic to the current neo liberal global paradigm and it has implications for the role of ESD and for how ESD relates to mainstream educational agendas.

It should be noted of course that education policy and practice does not occur in a vacuum but is set within the wider social, political, economic context. As such it is often a 'site for struggle …. and should be seen as dialectically linked to broader national and global contradictory dynamics' (Ginsburg et al. 1991: 29). Hence, the context of policy and practice in each member state will influence the kind of education that is promoted (Blenkin et al. 1992). As educators we need to be aware of the policy context as we have an opportunity and a responsibility to influence the

policy agenda by 'building alliances locally and globally with other groups and social movements' (Ginsburg 1991: 29).

3 The Role of Education—Quality or Quantity?

The proposed outcomes for Goal 4 on education include the following commitment:

> 'By 2030, ensure that all learners acquire the knowledge and skills needed to promote sustainable development, including, among others, through education for sustainable development and sustainable lifestyles, human rights, gender equality, promotion of a culture of peace and nonviolence, global citizenship and appreciation of cultural diversity and of culture's contribution to sustainable development' (UNESCO Open Working Group 2014a, b). This rightly underlines the crucial role of education in achieving sustainable development and represents an acknowledgement of this at a global policy level. Sterling (CSU, ISSC 2015) offers a note of caution 'This goal (4) is both an end and a cross-cutting means…. What is much weaker in the current articulation of the goal and its targets is education as a vehicle or instrument for change'. In other words, how exactly is education to perform this transformative role? What kind of education is needed? It is clear that there is a crucial role for education and learning in achieving this global shift of policy and practice in order to implement all the SDGs. As highlighted by the CSU and ISSC (2015) 'Education has been recognized for many years as a critical factor in addressing environmental and sustainability issues and ensuring human well-being. The importance of education and learning in supporting change is justified by research evidence.'

The focus of the MDGs on basic education and education for all (EFA) enabled some very positive achievements in raising global literacy rates and access to schooling but the disconnect between quantity and quality of education also presented a number challenges which were demonstrated in the lack of synergy between the two key global education programmes of EFA and ESD, both led by the work of UNESCO (Wade and Parker 2008). Access to education (quantity) is important but the kind of education (quality) on offer is also crucial. Educational achievements so far have continued to lead us into living unsustainably, in fact the countries with the highest levels of education 'also have the biggest footprints presenting the biggest challenges to sustainable development on the planet' (Wade and Parker 2008: 5).

As David Orr reminds us: 'Education is no guarantee of decency, prudence or wisdom. Much of the same kind of education will only compound our problems. This is not an argument for ignorance but rather a statement that the worth of education must now be measured against the standards of decency and human survival—the issues now looming so large before us in the twenty-first century. It is not education but education of a certain kind that will save us' (Orr 2004 p. 8).

As a result of the Education for All (EFA) targets of the MDGs, there have been some substantial achievements in terms of universal primary education and educational access, however, more generally there remain a number of concerns about the relevance, appropriateness and above all the quality of the education on offer.

According to Irina Bokova, Director-General of UNESCO, the 2013 EFA Global Monitoring Report 'makes a powerful case for placing education at the heart of the global development agenda after 2015…. Fifty-seven million children are still failing to learn, simply because they are not in school. Access is not the only crisis—*poor quality* (my emphasis) is holding back learning even for those who make it to school' (UNESCO 2013: i) Bokova goes on to emphasise the importance of education within the SDGs' We must learn from the evidence as we shape a new global sustainable development agenda after 2015. As this report shows, 'equality in access and learning must stand at the heart of future education goals. We must ensure that all children and young people are learning the basics and that they have the opportunity to acquire the transferable skills needed to become global citizens' (UNESCO 2013: ii) The key question here is what is meant by the term 'global citizens?' Does it just mean fitting into the current unsustainable global system or does it mean being able to question and challenge unsustainable practices and become empowered to make change. In other words, is it just more of the same education or is it ESD? The development of a new set of sustainable development goals presents us with the opportunity to embed ESD within the educational goals and so enshrine ESD within the human right of education for all. Unfortunately, ESD was not included in the education goals of the MDGs and the strong emphasis on access to primary schooling led to some unintended consequences in terms of quality. For example, the need for a whole systems approach to education which included the development of secondary education and teacher training was neglected. As a result a huge shortage of teachers and of school classrooms led to class sizes of over 70 as the norm in many countries in sub Saharan Africa.

4 Education as Empowerment?

UNESCO's Global Action Plan for ESD highlights the important role of education in empowerment and 'societal transformation: Empowering learners of any age, in any education setting, to transform themselves and the society they live in'.

This should include:

'Enabling a transition to greener economies and societies.

- Equipping learners with skills for 'green jobs'.
- Motivating people to adopt sustainable lifestyles.

Empowering people to be global citizens who engage and assume active roles, both locally and globally, to face and to resolve global challenges and ultimately to become proactive contributors to creating a more just, peaceful, tolerant, inclusive, secure and sustainable world' (UNESCO 2014a, b).

The key role of education in empowerment is also highlighted by UNESCO's report 'Sustainable Development 2015 begins with education' which provides research evidence of how education will contribute to each and every one of the SDGs. For example, for Goal One on poverty eradication: 'Education enables those in paid formal employment to earn higher wages. Better-educated individuals in wage employment are paid more to reward them for their higher productivity. On average, one year of education is associated with a 10 % increase in wage earnings. Returns to schooling are highest in sub-Saharan Africa, highlighting the need to invest in education in the region' (UNESCO 2014a, b).

In relation to Goal 5 on gender equality, 'Around 2.9 million girls are married by the age of 15 in sub-Saharan Africa and South and West Asia, equivalent to one in eight girls in each region. If all girls had secondary education in these two regions, child marriage would fall by 64 %' (UNESCO 2014a, b). Furthermore, for Goal 16 on developing peaceful and inclusive societies, 'Education is a key mechanism promoting tolerance to diversity. In Latin America, people with secondary education were less likely than those with primary education to express intolerance for people of different race (by 47 %). In the Arab States, people with secondary education were 14 % less likely than those with only primary education to express intolerance' (UNESCO 2014a, b).

When the SDGs were drafted there was also an opportunity to embed education and learning within all the SDGs which would have highlighted its role in empowerment, but the report identifies only one specific goal on education. This is disappointing but it perhaps reflects the lack of status of education within the policy process generally. UNESCO's report (2014a, b) demonstrates how education and learning is an essential building block to the achievement of all the goals and it is essential that future processes of policy making take this into account. As Sterling (CSU, ISSC 2015) points out in the CSU report 'Education is a key part of working to reduce vulnerability to economic, social and environmental dislocation and building more resilient systems. In developed countries, research indicates that education enables people to perform better economically, enhances health and extends life span, promotes civic engagement, and improves sense of wellbeing'.

Nonetheless, there is undoubtedly a strong argument for a specific goal on education to ensure accountability and policy action. Goal 4 certainly promotes a wider, holistic, more overarching view of education and does represent a step forward from the limited, rather instrumental education goal of the MDGs. This in no small part owing to the influence of the education lobbies of both EFA and ESD, which are increasingly coalescing around the concept of quality education (Pigozzi 2003).

The key question here is what kind of education is required if we wish to live sustainably? Current educational practices have led to some important innovations, for example in relation to sustainability practice in the built environment where the requirements of professional bodies have gone hand in hand with new undergraduate and master's courses in sustainable engineering and renewable energy. However, these are small steps on the road to achieving sustainable lifestyles and many of these innovations are not yet common practice. Current educational

practice has failed to address substantially our unsustainable lifestyles driven by the continued focus on economic growth and the resulting over consumption. The negative impact on personal health of the focus on continuing economic growth and consumerism has been described by various psychologists as affluenza which is like a 'painful, contagious, socially transmitted condition of overload, debt, anxiety and waste resulting from the dogged pursuit of more' (Graaf et al. 2001: 122). Developing the concept of affluenza Oliver James has linked rising consumption and the influence of advertising with high levels of anxiety and depression (James 2007: 142). Wilkinson and Pickett note how available evidence shows 'that further economic growth in the developed world no longer improves health, happiness or measures of well being' (Wilkinson and Pickett 2010: 217). Indeed as Jackson argues there is 'yet no credible, socially just, ecologically sustainable scenario of continually growing incomes for a world of 9 billion people' (Jackson 2011: 85).

In the UK, the government's response to addressing future societal, economic and environmental needs has resulted in an on-going emphasis on the STEM subjects at the expense of the social sciences. This can lead to extensive scientific and technological innovation but without an understanding of human behaviours and social change then this is unlikely to lead to adoption and support for change. ESD's focus on systems thinking and interdisciplinarity has the potential to maximise the effectiveness of innovation and to change behaviours. ESD also recognises the importance of local and indigenous knowledge which is key to achieving understanding of and commitment to appropriate sustainability practice.

5 The Transformative Role of Education for Sustainable Development

The notion of sustainable development and that of education for sustainable development are closely interlinked, and ESD can be viewed as the learning (formal, non formal and informal) that is necessary to achieve sustainable development (UNESCO 2007). UNESCO as the lead UN agency for ESD has succeeded in achieving a broad global consensus about ESD:

- ESD is facilitated through participatory and reflective approaches and is characterised by the following:
- is based on the principles of intergenerational equity, social justice, fair distribution of resources and community participation, that underlie sustainable development;
- promotes a shift in mental models which inform our environmental, social and economic decisions;
- is locally relevant and culturally appropriate;
- is based on local needs, perceptions and conditions, but acknowledges that fulfilling local needs often has international effects and consequences;
- engages formal, non-formal and informal education;

- accommodates the evolving nature of the concept of sustainability;
- promotes life-long learning;
- addresses content, taking into account context, global issues and local priorities;
- builds civil capacity for community-based decision-making, social tolerance, environmental stewardship, adaptable workforce and quality of life;
- is cross disciplinary. No one discipline can claim ESD as its own, but all disciplines can contribute to ESD; (UNESCO 2007).

Among educational practitioners there is considerable agreement around the pedagogy and approaches, which underlie an effective and empowering curriculum (Wade and Parker 2008). This growing consensus could be expanded and developed to bring in the additional dimensions of ESD, which are currently missing. The most obvious of these include the futures' dimension as well as a linked understanding of ecological and social processes, together with commitments to social and ecological justice. This presents an opportunity for the shared development of a framework (which might be called Education for Sustainable Development for All or ESDFA), which could bring the social and environmental dimensions together more effectively in the context of learning.

UNESCO recognised that this synergy could facilitate the achievement of both EFA and ESD together (Parker and Wade 2007; Bangay and Blum 2010). However this is where policy has fallen short and despite numerous commitments, limited progress has been made as demonstrated by the lack of reference to ESD within the 2013 Global Monitoring Report which addressed the EFA goals. Without this synergy the danger is that the same education systems and curricula which have led us to unsustainable development will be perpetuated and as a human race we may be left without the skills, competences, values and knowledge to tackle the major challenges which we are facing. Disappointingly the importance of this synergy was not reflected in the earlier discussions around the SDGs and in two key reports linked to discussions on the SDGs (Report of the High Level Panel May 2013 and the Report of the Sustainable Development Solutions Network (SDSN) June 2013) there was no mention at all of Education for Sustainable Development (ESD). There is clearly ongoing work for educationalists to do to keep ESD on the agenda in taking forward the SDGs. Numerous educational fora have endorsed the need for the transformative role of ESD (Bonn Declaration 2009, Tokyo Declaration 2009, GAP 2014) but policy makers seem slow to engage with the educational community on this.

Although the UNESCO overview in 2012 of ESD policy and practice across a range of countries indicated that national policy commitments have increased in the last 20 years and ESD practice has developed considerably, this is obviously very variable from nation to nation. Concerns about climate change and related threats have clearly helped to put this on the political agenda. The global fiscal crisis has also presented an opportunity for global leaders to review current unsustainable economic and social practices but so far there is little evidence of this in actual policy or practice. To many working in ESD this illustrates the urgent need for ESD for politicians and policy makers!

The UNESCO report was of course constrained by the complexity of capturing the full range of ESD activity and by limitations in the data, however, UNESCO found that progress in re orienting education systems towards sustainability has been very uneven. According to UNESCO's report to the Rio plus 20 Conference (UNESCO 2012: 12),

> '…in 2008, the proportion of countries evoking ESD or related fields in their development education programs (was) about 50 %. In some cases, ESD (was) evoked or included as a theoretical frame without the evidence of inclusion on the curricula or project development. Education by itself (was) sometimes described as a tool for sustainable development, without really including ESD. From a 50 country sample 26 countries reported no evidence of ESD in 2008, but by 2012 after the boost of the Bonn Conference in 2009, 16 of them fall no longer in that category. We can perceive an estimate increase of 34 % from 2008 to 2012. This allows us to have an approximation of the rate of adoption of ESD.'

Nonetheless it would seem that policy and practice in ESD have certainly developed from very small beginnings over the last 10 years and in many countries there is at least some government policy in place in all areas of the formal education sector, from schools to higher education (UNESCO 2013). In addition, national legal requirements on sustainable development in relation to other sectors, such as the built environment, have created space and demand for training at a range of levels. Additionally, in 2005 the UN acknowledged the Decade of ESD 2005 to 2014 and an implementation plan was produced and agreed. In this plan, education was viewed as a prime lever for social change, described by UNESCO in the implementation plan for the Decade in the following way: 'It means education that enables people to foresee, face up to and solve the problems that threaten life on our planet' (UNESCO 2005). Furthermore, at the international level, ESD was again strongly endorsed at the Rio+20 World Summit on Sustainable Development (WSSD) in 2012. UNESCO is, of course, dependent on funding and resources from member state governments and the response of governments to this challenge reflected their response to ESD generally. In other words, it was rather limited with the exception of a few countries. We will now seek to examine some of the issues which impede progress on policy and practice for ESD.

6 What Are the Blocks and Obstacles to ESD?

Since the 1980s, we have seen neo liberal perspectives form the overarching framework for policy making and this has shaped educational policy trends. Education represents one of the largest resource commitments of the public sector so it is not surprising that governments take a close interest in it and that it reflects certain ideological perspectives. In the last two decades many (Selby and Kagawa 2011; Blewitt 2013) would argue that it has reflected the rise of neo-liberal ideas both in terms of the purpose as well as the delivery of education. In many countries, such as the USA, UK, Australia, this has led to what is often called a 'compliance culture' within education, with a focus on targets, tests and tick boxes, something

that leaves little space for the critical thinking and questioning required by ESD. This view of education fits most closely with the 'job slots' view of education' (Kemmis 1983) which 'aims the whole of the school system at the job market and the structured set of inequalities that constitutes society as we know it' (Kemmis 1983: 1).

At the same time education has come to be seen more and more as a commodity rather than a process and this is illustrated nowhere more clearly than within the international agreement on General Agreement on Trade in Services (GATS) (World Development Movement (WDM) now Global Justice Now 2006) and the Trade in Services Agreement (TiSA) (WDM 2016). According to Nick Dearden, Director of Global Justice Now, 'This deal (TiSA) is a threat to the very concept of public services. It is a turbo-charged privatisation pact, based on the idea that, rather than serving the public interest, governments must step out of the way and allow corporations to 'get on with it' '. This could open the door for private corporations to take over the running of education systems, with all the possible implications for democracy and accountability. 'The dangers of such deregulation have already been highlighted, for example, by disastrous water privatisations in countries such as Tanzania (Rice 2007). Access to education like access to clean water is a basic human right and therefore needs to be seen as a public good, not a commodity which is subject to the vagaries of the market. Unfortunately this trend is continuing with the proposal for the EU to sign up to Transatlantic trade and Investment Partnership (TTIP) which would effectively allow corporations to set up unaccountable private courts to sue national governments which refused to open up key sectors to them (GJN 2016a, b).

Marketisation and privatisation trends have frequently skewed educational practice towards unsustainable development rather than helping to address the huge challenges which the world is facing in the 21st century. Politicians and policy makers have increasingly involved themselves in the detail of educational curricula and delivery and increasingly marginalised the expertise of practitioners and educational experts and theorists. Increased centralised control of formal educational agendas has resulted and this is illustrated by the work of Ball, Blewitt, Apple in their investigations of formal sector curricula. Increasingly, educators have been marginalised in the policy process—in 2014 Faul identified the key actors in global educational policy making as 'donor countries, multilateral agencies/regional banks, civil society and the private sector' (Faul 2014). Faul goes on to demonstrate that 'the global education policy space and implementation mechanisms are being constructed to prioritise literacy and numeracy, and gender parity alone' (Faul 2014). The global policy focus on targets and indicators has also arguably hampered progress towards ESD. As Disterheft et al. (2015) point out 'Shifts of perception are at the core of transformative learning, however it is difficult to assess these shifts'.

In the UK within the English National curriculum under the previous Labour administration there was a strong focus on numeracy and literacy, although there were some steps to introduce concepts of sustainability (for example, through the Doorways programme for primary schools). Nonetheless, it was very difficult to

find much evidence of a commitment **to re orient** educational systems towards sustainable development (a key commitment of Agenda 21). And one of the first actions of the UK Conservative led coalition was to withdraw funding from the Sustainable Schools network and to abolish the Sustainable Development Commission.

Nonetheless, there is an increasing demand from UK students to embed sustainability knowledge and skills within the taught curriculum (Bone and Agombar 2011). A survey in 2011 of over 5000 first year UK students also found that 'overwhelmingly, skills in sustainable development are viewed as significant for employability and over 80 % of respondents believe these skills are going to be important to their future employers;—respondents placed high value on many of the aspects of sustainable development for use in HE in relation to increasing their ability to perform well in their course;—sustainability concerns are significant in students' university choices;—the vast majority felt that sustainable development is something universities should actively incorporate and promote (Drayson et al. 2011: 6).

These initiatives are supported by demands from the business sector which is increasingly highlighting the need for employees to bring skills and understanding of sustainable development. While recognising the importance of enhancing employability skills there is a danger that too great a focus on the skills agenda alone will ignore the challenge of a changing world and a changing global economy which cannot rely for ever on unlimited energy supplies at a time when global warming is changing the very planet we live on. As Drayson et al. (2011: 12) go on to caution 'the EfS agenda advocates the need for a broader range of skills that can challenge societal norms, and transform educational practice'.

Porrit and many others point out in his book, Capitalism as if the world really mattered (Porritt 2005), business as usual is no longer an option. Poritt demonstrated how things could be different with a more people centred and planet centred attention to capital, and his work as chair of the UK Sustainable Development Commission highlighted education a key element of this.

Unfortunately, there is a limited focus at the national and global level on transformative education for sustainable development. For example, a recent paper written for the United Nations Development Programme (UNDP) on the post 2015 agenda for development contains only one very brief reference to education (Pettinato and Vasquez 2013).

7 Catalysts for Change?

Nonetheless, there are at least some small positive signs that the discourse of on-going, energy consuming economic growth is starting to change. A number of initiatives may offer the potential to break through these blocks and obstacles. The so called 'Green Economy', for example, was central to discussions and debates at the 2012 United Nations Conference on Sustainable Development (commonly known as Rio+20). It is based on the assumption that green or sustainable growth

can be achieved by utilising the latest science and technology. A 2011 UNESCO policy paper stated that 'Science holds many of the answers to the complex questions we face (UNESCO 2011a, b: 5). It talks of the need for 'resolute science and technology based solutions' to combat the many social and environmental challenges (UNESCO 2011a, b: 29). These ideas sit within the ecological modernisation school of thought and is part of the mainstream thinking within the UN and international development circles. But the concept of the Green Economy 'and strategies to promote a green economy are highly contested' (UNRISD 2011). Jones has argued about the important link between creating green jobs and protecting the environment (Jones 2012: 187). But for Jackson nobody has yet come up with an honest and clear definition of what is actually meant by sustainable growth (Jackson 2011). Cable goes further arguing that 'Sustainable growth is nonsensical: growth is not sustainable because resources are not infinite' (Cable 2012: 12). And yet the idea of sustainable growth has gained significant leverage in policy circles. No one should deny the important role that science and technology can play in shaping a more sustainable world but the Green Economy approach is in danger of perpetuating the myth that science and technology are all that is needed. Indeed as Bowen has argued 'it is not clear whether this new emphasis on green growth represents a paradigm shift or just spin to cover up inconsistencies between economic and environmental objectives of government' (Bowen 2012: 7). The challenges that the world faces today are multi-faceted and require a variety of social, environmental and economic policy responses, of which science and technology is but a part. Indeed there is recognition in international circles that 'Green economies on their own are not enough' There is also a need to build 'green societies' which 'must be fair, equitable and inclusive societies' (UNESCO 2011a, b: 8). The concept of green societies offers us a potentially important way forward. But we must careful to avoid prioritising the green economy as the driver for social change over the green society.

A school of thought that challenges the dominant paradigm of neo liberal economics is New Economics (Simms and Boyle 2009). For the UK based New Economics Foundation 'The UK and many of the world's economies are increasingly unsustainable, unfair and unstable'. What is needed, argues the Foundation is a 'Great Transition—to transform the economy so that it works for people and planet' (New Economics Foundation 2014). In similar vein the USA based New Economy Coalition talks of 'an economy that is restorative to people, place and planet' (New Economy Coalition 2014). In essence, New Economics challenges neo liberal assumptions about the value of traditional measures of economic growth such as GDP. It aims to place the well being of people and planet at the heart of the economic policy agenda.

The 2008 global financial crisis presented world leaders with the opportunity to address some of the problems of resource consuming, poorly regulated global capitalism and to deliver a New Economics. The failure to take this opportunity may be looked back on as one of the greatest betrayals of the 21st century. In the UK context, Porritt's 'resignation [from the UK Sustainable Development Commission] and the failure of the Green Deal to become counter hegemonic at the

moment when neo liberalism had failed showed just how resilient neo liberal capitalism is' (Blewitt 2013: 54). If ESD had been strongly embedded within the education of the public and of politicians, perhaps some more forward thinking would have helped politicians to take the 'brave decisions' needed to make the changes needed. Blewitt argues that to a great extent education has been captured by the neo liberal mainstream agenda and that a critical pedagogy is needed in order to challenge and change this' (Blewitt 2013). He is critical of educationalists and indeed also of some ESD practitioners in making too much accommodation with the mainstream agendas which will only perpetuate more of the same social, economic and environmental relations. He maintains that 'It has worked within the paradigm it wants to shift and in so doing helped to sustain it' (Blewitt 2013: 53).

Nelson Mandela is often quoted as saying that 'education is the most powerful weapon we can use to change the world' but what kind of education? Paulo Freire's literacy work in Brazil among peasant farmers did much to enable them to claim their rights—so much so that he was seen as a major threat to the dictatorship at the time and was forced into exile! Freire espoused a critical view of education as liberation, not the individualised 'banking' style of education of which he was highly critical (Freire 1972). ESD can be seen as a challenge to current neo liberal hegemony as indeed it does encourage critical questioning and involve a more holistic approach to learning and to addressing global challenges. Its emphasis on equality, supported by increasing evidence that human well being and healthy societies depend on social and ecological balance, (Picket et al. etc.) does not sit easily with the current market driven economy, unsustainable consumption and uncritical economic growth. ESD represents both a challenge to current unsustainable practices but also a process and a framework to move forward. In progressing this within higher education, Leal Filho proposes the concept of applied sustainability as 'An action-oriented and project-based approach, which uses principles of sustainable development and applies them to real contexts and to real situations, yielding the benefits which can be expected when methods, approaches, processes and principles of sustainable development are put into practice' (Leal Filho 2015: 15). This approach presents a challenge for current models of global policy making as it implies a high level of participation form all key actors, including the least powerful.

8 Seeds of Change?

In seeking to achieve the SDGs, it is crucial to acknowledge that it is not more of the same education but the **kind** of education that is essential and it is important to note that 'the concepts of ESD and indeed, sustainable development have relatively recent origins and are both seen as 'emerging' and contested. How they are interpreted will depend very much on the ideological, philosophical, cultural and ethical perspectives of those using them' (Wade 2015). We have argued that the

SDGs cannot be achieved without ESD but how then can educators take this forward in policy and practice terms?

There are a number of initiatives in progress which offer opportunities for taking forward the ESD agenda. At a practitioner level, the UNESCO International Network (INTEI) of Teacher Education Institutions is comprised of teacher education institutions from about 60 nations around the world and the member institutions work to incorporate sustainability into their programmes, practices and policies. 'Each member institution addresses environmental, social, and economic contexts to create locally relevant and culturally appropriate teacher education programmes for both pre-service and in-service teachers' (UNESCO 2013). This network has produced a number of very useful resources, meets bi annually and offers mutual support and the potential for collaborative engagement. UNESCO has viewed it as flagship project for the UN Decade of ESD and the influence of the network can be seen in the, the development of EFA ESD synergy and even in the wording of Goal 4 of the SDGs.

In addition, the RCE initiative (Regional Centres of Expertise in ESD), co-ordinated up by the United Nations University-Institute of Advanced Studies is also another potential driver for change. In 2016 this involved over 138 regional centres of expertise in ESD operating in a wide range of countries and global regions including Europe, Asia, Africa and the Americas. Their purpose is to mobilize individuals and communities towards sustainable development, using the most appropriate expertise, knowledge and skills and they are founded on the principles and values of ESD in relation to social and ecological rights and justice, locally and globally. An RCE is a network of formal, informal and non-formal organisations mobilised to act as a catalyst for the delivery of education for sustainable development (ESD) to local and regional communities. The network is made up of schools, community and voluntary groups, the business sector, universities and non-governmental organisations, local authorities and other interested individuals. Most (though not all) RCEs are founded and co-ordinated by Higher Education institutions (HEIs).

Examples of the work of a number of different RCEs which illustrate the seeds of a new more engaged model of education can be found in the 2015 book 'The Challenges of Sustainability: linking politics, education and learning (Atkinson and Wade 2015). RCE Saskatchewan in Canada, for example, was able to mobilise a consortium of universities, educators and local communities to examine and win the argument against the proposal to build a nuclear power station in the region (Petry and Benko 2015: 192). In Japan RCE Greater Sendai is based in the region of the terrible East Japan earthquake and tsunami of 2011 and has been greatly involved with helping to address issues relating to 'the disaster the area experienced. Each region worked on restoration and redevelopment and each is now working on their redevelopment program. Greater Sendai RCE now includes the promotion of education for disaster risk reduction (EDRR) and redevelopment in its agenda' (Koganezawa and Ichinose 2015: 197). Schools which had been working with the RCE for some time already had strong networks with the community and were more prepared for the disaster, hence evacuation plans were carried out and the

students not only survived but were able to work to build up their communities again. The RCE has organised regional seminars to share experience and produced textbooks for schools and 'The concept of sustainable development provides an important framework for relationship building between local communities and schools. We learned through the Great East Japan Earthquake how effective it is when we have to cope with a natural disaster to have had a cooperative relationship between the two and have deepened such liaisons and communications' (Koganezawa and Ichinose 2015: 197).

Of course education is but one facet of wider social agendas and without wider social change it is unlikely that educational change will result. At the same time education can also influence social change as highlighted earlier in this paper by the 2013 Global Monitoring Report. Governments have often had a tendency to try to use education in an instrumental way as a tool for their policy. Understanding the causes of change in policy and practice is of course a complex area of study and is like trying to unravel a complicated, interconnected and tangled web of relationships and conflicts with a vast array of actors and influences. It is an iterative, not linear process where policies are 'the operational statements of values, statements of 'prescriptive intent' which are then 'contested in and between the arenas of formation and implementation' (Bowe et al. 1992: 20). Educational change and social change are closely interlinked in a symbiotic, mutually dependant relationship. In order to change education policy there must be understanding and commitment from policy makers and to do this we also need an informed electorate and general public. The discussions around the development of the SDGs offer a real opportunity to put our planet on a more sustainable trajectory and it is an opportunity which global policy makers cannot afford to miss. ESD offers both a framework and a process to take this forward.

9 Conclusion

The Paris COP agreement of 2015 has been heralded as a global turning point and a breakthrough moment in addressing climate change yet it has been heavily criticised by civil society organisations, especially for putting the main burden onto developing countries (CSO 2016). Nonetheless, together with the SDGs this global agreement offers our best hope yet for making the deep and substantive changes needed for the survival of humankind on our fragile 'pale blue dot' (Sagan 1996). We have seen that there are some small signs that the global paradigm of neo liberalism is beginning to shift and that this will present opportunities to open up space and to highlight the need for ESD. The challenges we face are immense, not least the more immediate concerns and humanitarian crises caused by conflicts in the middle east and by changes in the global balance of power.

This paper has taken a big picture approach to policy and practice change and drawn from a wide range of sources. This of necessity provides some limitations and constraints as it seeks to be both reflective and normative. Its main focus has

been on educators and the role of education and it could be developed further by a review of attitudes of decision makers and politicians to the role of education in the SDGs. We feel that this would probably highlight the inherent contradictions described earlier and possibly highlight the generally low status of education within policy agendas. However, this is for future exploration.

The 1992 commitments of Agenda 21 recognised the imperative of integrating development and environmental issues in order to address poverty and the aspirations of a 'developing' world while also tackling the environmental degradation and depletion caused by the unsustainable development of the past decades. Agenda 21 recognised that 'development' takes place within the finite limits of the earth's resources and that we all have a responsibility to respect these both for current but also for future generations. It was a huge achievement for the world's governments to sign up to such commitments to achieving sustainable development for all and the summit recognised the key role of a number of major groups, including Trades Unions, Indigenous People, NGOs, Local Authorities and the Business sector. Education, awareness raising, informal and non-formal learning were all seen as key to these commitments but one major group that was not mentioned was the Education community. As educators we believe that we have a particular role and responsibility in taking forward these agendas, as academics and as educational activists as well as being members of a global community which has signed up to the commitments of the SDGs. In order to do this, we can build on and develop current initiatives and strengthen learning communities of practice in ESD, such as the RCEs and INTEI. We can also ensure that our work has real wold impact by engaging with progressive social movements such as the Transition Town movement and New Economics.

The SDGs offer a real opportunity to set the world on a course to a more sustainable future. ESD can provide the framework, the learning and the process for this and this is a great opportunity for the education community to make an impact. The seeds of change have been scattered but are starting to grow, through solidarity and mobilisation networks and communities of practice both locally and globally. It is perhaps not surprising that many of them are operating outside and beyond mainstream structures, across sectors and different communities, across regions and countries. New patterns of living, working and being are undoubtedly needed and ESD can provide the link which connects us all with our common humanity and our relationship with the natural world.

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