# Chapter 7 Mainstreaming Climate Change Adaptation into Development in the Gambia: A Window of Opportunity for Transformative Processes?

#### Hannes Lauer and Irit Eguavoen

**Abstract** Climate change adaptation (CCA) has emerged as a new paradigm of development politics. As adaptation has turned out to be less tangible than mitigation, controversies about the meaning and implementation have come up.

This paper is based on empirical research in The Gambia analyzing how CCA is mainstreamed into development strategies.

There is much political activism noticeable for translating the international idea of CCA to the local realities of The Gambia. These political efforts offer windows of opportunities for transformative processes. Many of these, however, are not seized due to country-specific and external factors. Despite this, some pragmatic and creative, approaches from the Gambian climate change network provide some adaptation and development co-benefits.

**Keywords** Climate mainstreaming • Governance • Institutions • West Africa • Gambia

## Introduction

The Gambia, the smallest country of mainland Africa, finds itself confronted with the need to develop and adapt to climate change at the same time. A pragmatic way to do this is to "*address the two in an integrated way, through mainstreaming*" (Ayers et al. 2014). This poses an immense challenge because The Gambia has already been targeted by development cooperation for decades and still struggles to

H. Lauer (🖂)

I. Eguavoen Center for Development Research (ZEF), University of Bonn, Walter-Flex-Str. 3, 53113 Bonn, Germany e-mail: eguavoen@uni-bonn.de

WASCAL, University of Bonn, Walter-Flex-Str. 3, 53113 Bonn, Germany e-mail: HannesLauer@gmx.de

<sup>©</sup> Springer International Publishing Switzerland 2016

W. Leal Filho (ed.), *Innovation in Climate Change Adaptation*, Climate Change Management, DOI 10.1007/978-3-319-25814-0\_7

meet the basic needs of its people. The challenge is also immense because adaptation is an intangible and still relatively vague concept with unresolved questions, opening up space for controversies (Pelling 2011). Given these challenges, it is necessary to investigate how adaptation is mainstreamed, as well as if this mainstreaming will have significant positive effects on the development agenda of The Gambia. Developing countries have witnessed the rise and fall of many approaches and paradigms proclaimed to be turning points around which funding has concentrated (Ireland 2012). All too often these paradigms have been absorbed into business as usual development frameworks, only presenting development in a new guise, without tackling underlying vulnerabilities (Pieterse 2010; Ireland 2012; Ireland and Keegan 2013). Great hopes are placed in adaptation now. Climate change adaptation (CCA) is expected to have a significant impact on the development discourse (Cannon and Müller-Mahn 2010) as it has stepped out of the shadow of mitigation and emerged as a new leading paradigm in the development sector. Adaptation is expected to be nothing less than "an opportunity for social reform, for the questioning of values that drive inequalities in development and our unsustainable relationship with the environment" (Pelling 2011).

It is against this backdrop that this paper analyses the ongoing process of mainstreaming CCA into the Gambian development strategies. Referring to the current academic debate on adaptation and transformation (Pelling 2011; O'Brien 2012; O'Brien and Sygna 2013; Eriksen 2013; IPCC 2014), the objective is to fathom if the mainstreaming process offers windows for transformative processes, which might go beyond a depoliticised implementation of adaptation as a climate proof add-on for the existing development strategies.

Much literature, many guidelines and toolkits neglect how governance works in Africa where adaptation must take place (Lockwood 2013). Hence, the second part of the paper presents empirical findings which provide some insights to climate governance network in the Gambia.

# Adaptation at the Crossroad: Between Resilience and Transformation

The growing volume of funding mechanisms predicts a bright future for CCA. The Green Climate Fund alone is expected to provide 100 billion USD per year from 2020 onwards. This accounts for almost 80 % of official aid from member countries of the Organisation for Economic Co-operation and Development (OECD) (Ireland and Keegan 2013; Lockwood 2013). This global call for adaptation is finding its audience. Governments and organisations in West Africa are responding in order to bring themselves in position to engage with adaptation.

The crux of the matter is that adaptation is targeting uncertain future impacts. Experience about what actually makes an intervention an effective adaptation to climate change and how adaptation should look like in practice is rather rare, especially in Africa (Lockwood 2013). Adaptation is a process closely interwoven with multidimensional societal processes (Eriksen 2013). As a result, unlike mitigation, adaptation outcomes are difficult to measure.

Although "there is now a large and increasing academic literature on adaptation and development" (Lockwood 2013), decision-makers and implementers who are engaging with adaptation do so very much in a learning-by-doing attitude. The conceptualization of adaptation across multiple scales and its impact on the development discourse depends on power constellations between political actors (Pelling 2011; Eguavoen et al. 2015) and their willingness to facilitate change (O'Brien 2013). Accordingly, adaptation is at a critical point, where political decisions determine if adaptation can realize its potential to restart the quest for sustainable development. This development ideal bringing the environment, the economy and the social dimension under one umbrella is still to be achieved. The initial concept of sustainable development from the 1980s and 1990s "has morphed into ecological modernization" (Pelling 2011). Climate change, as a coevolution of development, offers room for reconfiguration, whereas "first mitigation and now adaptation provide global challenges that call for a rethinking of development goals, visions and methods" (Pelling 2011).

This explains why adaptation is increasingly debated in relation with transformative processes. CCA that seeks transformation as outcome builds on the conviction that, though there are many open questions and blind spots, we know enough about cause and effects of environmental- and climate change to recognize that only fundamental deliberate changes might create a livable future for subsequent generations (O'Brien 2013). However, it is "not always clear what exactly needs to be transformed and why, whose interest these transformations serve and what will be the consequences" (O'Brien 2012). Accordingly, transformation is opposed by notions of adaptation that prefer system-intern responses to occurring or expected adverse effects. These notions coalesced around resilience, a concept originally deriving from ecology and systems theory. Because the concept of resilience focuses on absorbing perturbations, such as shocks, to finally swing back and maintain the functioning of a system (Adger 2000; MacKinnon and Derickson 2013), it is criticized for being rather conservative as it is applied for social systems (Brown 2014). Although recently there has been engagement to strengthen the social dimension in resilience writing (ibid.), other than transformation, the mainstream notion of resilience takes social structures for granted. It offers a simplified understanding why certain countries, regions or social groups are vulnerable and presents rather technical solutions that allow to integrate adaptation into existing agendas, strategies and plans, even without changing or questioning them (Ireland 2012).

Transformation is rather a vision or a processual operation that requires practical (techniques and behaviors), political (system and structures) and personal changes (beliefs, values, worldviews and paradigms) (O'Brien and Sygna 2013). Thus the mainstreaming process in The Gambia is analyzed in search of processes that go beyond the utilization of adaptation as apolitical response to, or anticipation of a certain risk that threatens the system. As transformative processes imply change on

a multitude of spheres and by a multitude of actors, the analysis is based on field research which adopted a methodological triangulation to examine the mainstreaming process from different angles. It consisted of an analysis of the relevant climate change policy papers and strategies, of expert interviews and of participant observation. The 17 in-depth expert interviews were conducted in a semi-structured manner with experts from all relevant government institutions, with national and international consultants and with three NGO representatives. The participant observation consisted of being an embedded intern at the leading national environment agency for 7 weeks. This cooperation provided insights in the routine work of a Gambian government institution and gave access to the Gambian climate network as it was possible to join to field trips and to take part in workshops and in countrywide conferences.

#### **Climate Policy in The Gambia: A Historical Overview**

The Gambia follows the pathway prescribed by the United Nations Framework Convention on Climate Change (UNFCCC) (see Fig. 7.1). The response strategy proposed by the UNFCCC consists of basic assessments which are followed by

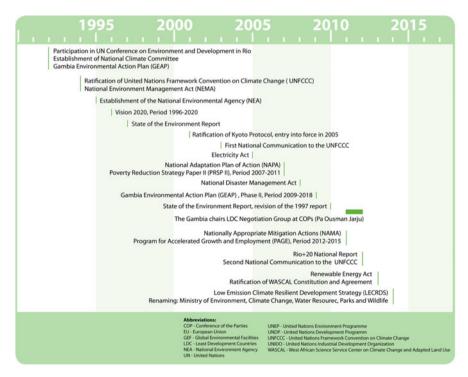


Fig. 7.1 Historical outline of the adaptation policy process in the Gambia. *Source*: authors, Design: J. Vajen

political strategy papers (Lamour 2013). The Gambia conducted National Capacity Self-Assessments with greenhouse gas inventories and vulnerability assessments. They build the base for the two National Communications to the UNFCCC, submitted by the Government of The Gambia (GoTG) in 2003 and 2012. The two main policy papers are the National Adaptation Plan of Action (NAPA) from 2007 and the plan for the National Appropriate Mitigation Actions (NAMA) from 2012. The NAPA sets the focus on improving the adaptive capacity of the country's key vulnerable sectors and regions against the main environmental stressors (GoTG 2007) and the NAMA presents a strategy to develop emission-intensive sectors more sustainable (GoTG 2011).

Climate change activities were accompanied by legal changes in various sectors, such as by the National Disaster Management Act (2008) or the Renewable Energy Act (2013). Additional sectoral policies were set in place by various institutions who engage with environmental management and issues such as biodiversity, water management or agricultural regulations.

The current political challenge is to manage and channel these various climate activities. The policy formulation process of the past 20 years has resulted in a "*myriad of existing climate change and development related strategies and reports*" (Lamour 2013). A first step of disentangling was the development of the medium term strategy Program for Accelerated Growth and Employment (PAGE) from 2011 which considers climate change as cross-cutting issue impacting on various sectors. The newly prepared Low Emission Climate Resilient Development Strategy (LECRDS) from 2014 takes another step as it hooks up on existing strategies to channel adaptation and mitigation into an integrated development strategy (Lamour 2013). Great expectations are also placed in the National Climate Change Policy. Its elaboration has recently been initiated by the government. The policy is expected to set the legal framework for future climate change policies.

#### Institutional Reorganization and Tight Network of Experts

Given the country's small overall population of less than two million people, the size of the political and academic elite is manageable. Experts in environmental policy and project implementation usually know each other personally. Workers of the ministries, the government agencies or researchers from the University of The Gambia, as well as donors and staff of international organizations form a tight social network that gets reinforced with every planning meeting or workshop. These events create a regular interface between different institutions working in the environmental sector.

The close-knit network character, however, does not necessarily imply a political comfort zone. The institutional framework for climate change governance in The Gambia has undergone some changes over the past decade. Political responsibilities were reallocated. Agencies and other organizations are constantly restructured or renamed according to the latest policy strategy. For these reasons, ministries and other organizations claim authority over climate change and partly compete with each other. This situation was described by an international consultant during the field research as: "When climate change comes around every sector has a hat with climate change on".

Institutional struggles for competence and the lucrative financial means for CCA projects became apparent in the National Climate Change Committee. This multistakeholder organization holds periodically meetings and functions as technical decision making body for climate change. It was reported that a central debate in the Committee concerns institutional mandates. In early 2014, there were four institutions present in the Committee that can be considered key players for the national climate change governance: (a) The Department of Water Resources (DWR) under the Ministry of Fisheries, Water Resources and National Assembly Matters, (b) The Ministry of Forestry and the Environment (MoFEN), (c) the National Environmental Agency (NEA) under the MoFEN, as well as (d) the National Disaster Management Agency (NDMA). The UNFCCC focal point and the chair of the National Climate Change Committee were automatically linked to the directorate of (a) but have to report to (b) as the ministry is the political body for environmental issues.

All interviewed experts working in government institutions are aware that institutional struggles are cumbersome and that existing structures are 'bubbled'. They consistently expressed the need to sort out authority and responsibilities. Climate mainstreaming can be supportive in this regard when addressing "issues of institutional architecture at national level [defining] which ministry of department is the nation's lead agency while simultaneously distributing responsibilities across sectors, encouraging dialogue, emphasising effective coordination and promoting systematic knowledge sharing" (Jallow and Craft 2014).

This mainstreaming process is underway. The awaited National Climate Policy is intended to regulate responsibilities and a major institutional restructuring occurred in late 2014. The Ministry of Forestry and the Environment was renamed into the Ministry of Environment, Climate Change, Water Resources, Parks and Wildlife. The post of the minister was appointed to Pa Ousman Jarju, an internationally renowned expert on climate change. His achievements in climate diplomacy as chair of the Least Developed Countries (LDC) group at the UNFCCC Conferences of the Parties (COPs) and as special climate envoy (the first ever appointed from the LDC group) provide him strong legitimacy in leading the mainstreaming process in The Gambia. Mr. Jarju, as head of the DWR, had acted as the chair of the National Climate Change Committee and the UNFCCC focal point and was involved in the planning process of all climate change related documents about the Gambia.

It is an important observation that Mr. Jarju and a small number of other outstanding and internationally known environmental experts are very influential in the mainstreaming process. Together with some technically skilled people working in leadership positions of environmental institutions, they guide the policy formulation and implementation. The majority of staff below this level of experience, however, had rather limited technical knowledge on climate change. As a result, the climate change policy and mainstreaming process lays on the shoulders of a relatively small number of consultants and Gambian experts who are very active in driving the process.

#### Mainstreaming CCA in The Gambia

Political mainstreaming is a top-down process. It is often understood as the integration of a certain issue into political strategies and institutional agendas. However, more holistic approaches see mainstreaming as a long-lasting iterative process (Olhoff and Schaer 2010) that goes beyond the act of integration and is based on different pillars. Figure 7.2 presents a three-pillar scheme for such coherent mainstreaming (for comparable illustration see Ayers et al. 2014). It represents mainstreaming as a linear process that countries may follow step by step. But in practice mainstreaming is a process without clearly defined beginning and end. Awareness building on climate change, for example, is practiced by various actors and agencies and it is therefore difficult to determine whether it is part of the political mainstreaming process. Ayers et al. (2014) showed that there "*is no single best approach to doing mainstreaming*" and that frameworks and illustrations rather provide a starting point to understand the process.

#### **Pillar 1: Sensitization and Capacity**

The first pillar is considered the basis for political CCA mainstreaming. It includes understanding the impact of climate change on various sectors in a country and be

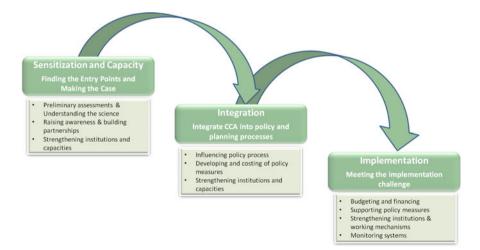


Fig. 7.2 The three pillars of mainstreaming. Source: authors, based on UNDP-UNEP (2009)

informed about possible adaptation options. This knowledge needs to be constantly shared within society and among policy-makers.

In the Gambia, the most discussed obstacle concerning the first pillar was the scarcity of experts who could support the mainstreaming process and back up the leading experts (see above). Though more technical capacity will certainly be needed, it would be an oversimplification to reduce governance problems to matters of missing knowledge (Lockwood 2013). Knowledge and skill would need to come with willingness for change or with, what an international expert had called, "*the culture of consequences*". It is therefore important to share knowledge and advocate for adaptation and mitigation beyond the border of the existing environmental and climate change network. Advocacy would need to convince political elites and the powerful Ministry of Finance and Economic Affairs. In the Gambia, there have been attempts to sensitize the whole cabinet during a series of working dinners. But still, it is most likely that CCA will be compromised when coming to monetary decisions.

But not only sensitization of politicians is needed. It is also important to translate climate science into a more comprehensive language in order to reach the public. In The Gambia many sensitization initiatives are ongoing. They include the introduction of climate change into the curriculum of basic and secondary schools, the establishing of environmental study programs by the University of the Gambia, the work of environmental reporters and the activities of various NGOs. The University of the Gambia hosts a West African Master of Science Program in Climate Change and Education (Eguavoen and Tambo 2015). But sensitization is a long-lasting process facing the difficulty that people might give preference to short-term strategies because gaining a livelihood is already difficult.

Missing sensitization of the wider public reveals a basic constraint for mainstreaming to be successful - the top-down nature of the whole process. This entails the risk that actions will not reach to the so-called *space of places* where people live. Particularly NGO representatives moaned that it is nice by the government to establish documents like the NAPA, but the whole top-down adaptation approach has the effect that measures will either never be implemented, or local people will misunderstand them, having the ultimate risk of maladaptation. It was also criticized that the needs assessments do not address the needs of local people properly. The main climate change documents rather focus on macro level interventions to develop basic infrastructure for the country's main sectors than on local structures. Agrawal and Perrin (2009) had come to similar findings by comparing NAPAs of 18 countries.

#### **Pillar 2: Integration**

The second pillar is often perceived as the actual mainstreaming. Integration mainly consists of policy formulation as well as developing and budgeting of adaptation measures.

Most of the climate related documents in the Gambia are detailed papers of high quality that follow UNFCCC guidelines. Policies and strategies have been written by teams of Gambian and international experts. There has been much political activity under the second pillar (see above). The climate change network has made sure that climate related documents are in line with the overall development goals of the country. Climate change documents overlap substantially with the country's flagship environmental and poverty reduction strategies. The "economic structure and the development status, and the key role of weather and climate on physical, social and economic vulnerability" (GoTG 2007) has the effect that most strategies aim to develop certain sectors, namely agriculture, forestry, energy and the coastal zone (erosion control of beaches and income diversification). This duplication shows that CCA (and also mitigation) is utilized as an opportunity to invest in the country's key sectors. The coastal zone is especially important for the Gambian tourist sector.

Following the top-down criticism mentioned under the first pillar, it is a crucial question for the policy formulation process how to downscale international and national policies and how to upscale local knowledge and communal adaptation (Vincent et al. 2013). We observed that constructive dialogue between the political sphere, NGOs and local people was missing on many occasions—be it in the daily routine, on conferences or on workshops. Though lip service was paid to integrate local knowledge in the adaptation planning process, in practice participation was often taking the form of consultation where parties presented their view without getting into discussions. For example on workshops and conferences the floor was open for question and answer sessions where local people very explicitly accused decision-makers for not addressing their needs, for sharing information to late and for having no voice in the decision-making process. NGO representatives complained that no practical consequences are drawn from such often lengthy question and answer sessions.

#### **Pillar 3: Implementation**

Making the final leap from the policy to the realization is ultimately the decisive step described as third pillar.

Whoever we had asked about what would be needed most to implement adaptation, named higher budgets and missing financial resources. During time of research, every CCA project investment and even the development of most strategy papers was financed by international donors. Nothing is implemented until foreign funding is available. Though the moral claim of LDCs for funding is legitimate, dependency on external funds is problematic, especially because the big money for CCA is not yet flowing. It had happened several times that The Gambia was missing out on funds because the country could not meet the funding requirements and provide the domestic contribution. As a result, only two NAPA projects have started implementation. The other eight projects are pending due to lack of funds. An own domestic fund for adaptation seems, though expressed as a goal to be achieved, a future vision rather than a tangible option. Many respondents also suspected that if money for CCA implementation was available, it would be used inefficiently. Respondents complained that a lot of money was spent for international consultants, for conferences and workshops, but not much for concrete CCA measures.

Insights from the Gambian climate change network revealed how working routines and practices can be cumbersome for CCA implementation. Administrative hurdles are time-consuming in the daily work of the main agencies. Grinding paperwork and waiting for authorizations hinders effective workflows. Particularly the implementation of projects that involve a multiple actors is difficult, because different rules and regulations of the involved institutions have to be fulfilled. Making matters worse, the staff turnover inside and between the implementing institutions is very high. Employees up to the secretaries are shuffled from one position to the other within the institutions and beyond. It makes it difficult to establish long-term working relations and CCA expertise among the mid-level staff.

### Conclusion

The new paradigm of CCA has introduced new political structures and financial mechanisms. Its implementation, however, struggles with similar problem constellations, structural prerequisites and obstacles like other development paradigms. Meaning that in The Gambia much of the progress being observable under the second pillar of the mainstreaming process, where experts are active in establishing policy frameworks, still misses out on translation into practice. What Lockwood (2013) emphasized is true for The Gambia, the adaptation policy process is hardly a rational and linear one, following guidelines and policy frameworks. Lack of staff capacity, and the missing 'so-called culture of consequences', aid dependency, the top-down approach, as well as issues concerning the governance structures for CCA (under the other two pillars) make the mainstreaming process difficult. CCA mainstreaming in The Gambia seems to offer an additional opportunity and funds to strengthen existing strategies and programs rather than to be a political act of changing underlying processes. This does neither imply that new projects and technologies will not bring improvements, nor that existing strategies for sustainable development were ineffective. Merging them with CCA, however, would imply a business as usual approach with additional financial sources.

To also present a positive outlook, it is vital to emphasize that The Gambia is actively working on adaptation and thereby creative in developing important economic sectors. Policy-makers have understood that integrated adaptation and mitigation strategies may support overall development targets. Climate change offers the opportunity to allocate funds and create infrastructures that allow tapping local potential, such as investments in sustainable farming or fishing schemes and livelihood strategies, or to overcome fossil dependency by investing in renewable energies. This pragmatic approach should not be interpreted as a deliberate transformation on multiple scales, but as a development opportunity for The Gambia. Finally, the active political role that The Gambia has been pursuing at global conferences helped to create pressure by the LDCs to make the heavily-polluting countries move faster towards transformations for sustainability and keep their financial promises. This generates hope that CCA can be more than a "*mobilization without political issue*" (Swyngedouw 2010).

Acknowledgement The study was conducted for the West African Service Center for Climate Change and Adapted Land Use (www.wascal.org) and funded by the German Federal Ministry of Education and Research. Special thanks are due to Prof. Müller-Mahn from the University of Bonn for supervision, as well to interview partners and the staff of the National Environmental Agency of The Gambia for their support and kind hospitality.

# References

- Adger N (2000) Social and ecological resilience: are they related? Prog Hum Geogr 24 (3):347–364
- Agrawal A, Perrin N (2009) Climate Adaptation, local institutions and rural livelihoods. In: Adger N, Lorenzoni I, O'Brien K (eds) Adapting to climate change: thresholds, values, governance. Cambridge University Press, Cambridge
- Ayers JM, Huq S, Faisal AM, Hussain ST (2014) Mainstreaming climate change adaptation into development: a case study of Bangladesh. WIREs Clim Chang 5:37–51
- Brown K (2014) Global environmental change I: a social turn for resilience? Prog Hum Geogr 38 (1):107–117
- Cannon T, Müller-Mahn D (2010) Vulnerability, resilience and development discourses in context of climate change. Nat Hazards 55:621–635
- Eguavoen I, Tambo E (2015) Transformative learning for global change? Reflections on the WASCAL master programme in climate change and education in the Gambia. In: Dietz T, Tischler J, Haltermann I (eds) Cultural dimensions of climate change and the environment in Africa (working title) Brill, Leiden (Forthcoming)
- Eguavoen I, Schulz K, de Wit S, Weisser F, Müller-Mahn D (2015) Political dimensions of climate change adaptation. Conceptual reflections and African examples. In: Filho WL (ed) Handbook of climate change adaptation. Springer, Berlin (Forthcoming)
- Eriksen S (2013) Understanding how to respond to climate change in a context of transformational change: the contribution of sustainable adaptation. In: Sygna L, O'Brien K, Wolf J (eds) A changing environment for human security. Transformative approaches to research, policy and action. Routledge, London
- Government of The Gambia (GoTG) (2007) National adaptation programme of action on climate change. Banjul. Available: http://unfccc.int/resource/docs/napa/gmb01.pdf
- Government of The Gambia (GoTG) (2011) Nationally appropriate mitigation actions. Banjul. Available: http://unfccc.int/files/focus/application/pdf/nama\_foc\_prop\_gambia.pdf
- IPCC (2014) Summary for policymakers. In: Field CB, Barros VR, Dokken DJ, Mach KJ, Mastrandrea MD, Bilir TE, Chatterjee M, Ebi KL, Estrada YO, Genova RC, Girma B, Kissel ES, Levy AN, MacCracken S, Mastrandrea PR, White LL (eds) Climate change 2014: impacts, adaptation, and vulnerability. Part A: global and sectoral aspects. Contribution of working

group II to the 5th assessment report of the intergovernmental panel on climate change. Cambridge University Press, Cambridge

- Ireland P (2012) Climate change adaptation. Business-as-usual aid and development or an emerging discourse for change? Int J Dev Iss 11(2):92–110
- Ireland P, Keegan P (2013) Climate change adaptation. Challenging the mainstream. In: Sygna L, O'Brien K, Wolf J (eds) A changing environment for human security. Transformative approaches to research, policy and action. Routledge, London
- Jallow BP, Craft B (2014) Engaging effectively in climate diplomacy. Policy pointers from the Gambia. IIED Briefing. Iied, London. Available: http://pubs.iied.org/17246IIED.html
- Lamour Y (2013) Low emission climate resilient development strategy (LECRDS) for the Gambia Unpublished manuscript. Caori Consult, Banjul
- Lockwood M (2013) What can climate-adaptation policy in Sub-Saharan Africa learn from research on governance and politics? Dev Policy Rev 31(6):647–676
- MacKinnon D, Derickson K (2013) From resilience to resourcefulness: a critique of resilience policy and activism. Prog Hum Geogr 37(2):253–270
- O'Brien K, Sygna L (2013) Responding to climate change: the three spheres of transformation. In: Proceedings of transformation in a changing climate, University of Oslo, Oslo, 19–21 June 2013
- O'Brien K (2012) Global environmental change II: from adaptation to deliberate transformation. Prog Hum Geogr 36(5):667–676
- O'Brien K (2013) Global environmental change III: closing the gap between knowledge and action. Prog Hum Geogr 37(4):587–596
- Olhoff A, Schaer C (2010) Screening tools and guidelines to support the mainstreaming of climate change adaptation into development assistance a stocktaking report. UNDP, New York
- Pelling M (2011) Adaptation to climate change. From resilience to transformation. Routledge, London
- Pieterse JN (2010) Development theory. Sage, London
- Swyngedouw E (2010) Apocalypse forever? Post-political populism and the spectre of climate change. Theory Cult Soc 27(2–3):213–232
- UNDP-UNEP (2009) Mainstreaming poverty-environment linkages into development planning: a handbook for practitioners. http://www.unpei.org/sites/default/files/dmdocuments/PEI% 20Full%20handbook.pdf
- Vincent K, Naess LO, Goulden M (2013) National level policies versus local level realities can the two be reconciled to promote sustainable adaptation? In: Sygna L, O'Brien K, Wolf J (eds) A changing environment for human security. Transformative approaches to research, policy and action. Routledge, London