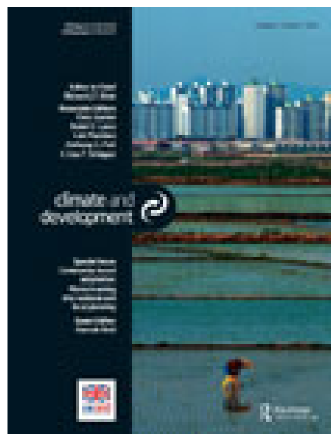
This article was downloaded by: [61.247.186.58]
On: 07 December 2014, At: 00:56
Publisher: Taylor & Francis
Informa Ltd Registered in England and Wales Registered Number: 1072954 Registered office: Mortimer House, 37-41 Mortimer Street, London W1T 3JH, UK



Climate and Development
Publication details, including instructions for authors and subscription information:
http://www.tandfonline.com/loi/tcld20

Up-scaling finance for community-based adaptation

Adrian Fenton[abc], Daniel Gallagher[d], Helena Wright[ce], Saleemul Huq[cf] & Charles Nyandiga[g]
[a] Sustainability Research Institute, University of Leeds, Leeds, UK
[b] Centre for Climate Change Economics and Policy, Leeds, UK
[c] International Centre for Climate Change and Development, Dhaka, Bangladesh
[d] Adaptation Fund Board secretariat, Washington, DC, USA
[e] Imperial College London, Centre for Environmental Policy, London, UK
[f] International Institute for Environment and Development, London, UK
[g] United Nations Development Programme, NY, USA
Published online: 07 Nov 2014.

To cite this article: Adrian Fenton, Daniel Gallagher, Helena Wright, Saleemul Huq & Charles Nyandiga (2014) Up-scaling finance for community-based adaptation, Climate and Development, 6:4, 388-397, DOI: 10.1080/17565529.2014.953902

To link to this article: http://dx.doi.org/10.1080/17565529.2014.953902

PLEASE SCROLL DOWN FOR ARTICLE

Taylor & Francis makes every effort to ensure the accuracy of all the information (the "Content") contained in the publications on our platform. Taylor & Francis, our agents, and our licensors make no representations or warranties whatsoever as to the accuracy, completeness, or suitability for any purpose of the Content. Versions of published Taylor & Francis and Routledge Open articles and Taylor & Francis and Routledge Open Select articles posted to institutional or subject repositories or any other third-party website are without warranty from Taylor & Francis of any kind, either expressed or implied, including, but not limited to, warranties of merchantability, fitness for a particular purpose, or non-infringement. Any opinions and views expressed in this article are the opinions and views of the authors, and are not the views of or endorsed by Taylor & Francis. The accuracy of the Content should not be relied upon and should be independently verified with primary sources of information. Taylor & Francis shall not be liable for any losses, actions, claims, proceedings, demands, costs, expenses, damages, and other liabilities whatsoever or howsoever caused arising directly or indirectly in connection with, in relation to or arising out of the use of the Content.

This article may be used for research, teaching, and private study purposes. Terms & Conditions of access and use can be found at http://www.tandfonline.com/page/terms-and-conditions

It is essential that you check the license status of any given Open and Open Select article to confirm conditions of access and use.

Climate and Development, 2014
Vol. 6, No. 4, 388–397, http://dx.doi.org/10.1080/17565529.2014.953902

climate and development

REVIEW ARTICLE

Up-scaling finance for community-based adaptation

Adrian Fenton[a,b,c*], Daniel Gallagher[d], Helena Wright[c,e], Saleemul Huq[c,f] and Charles Nyandiga[g]

[a]*Sustainability Research Institute, University of Leeds, Leeds, UK;* [b]*Centre for Climate Change Economics and Policy, Leeds, UK;* [c]*International Centre for Climate Change and Development, Dhaka, Bangladesh;* [d]*Adaptation Fund Board secretariat, Washington, DC, USA;* [e]*Imperial College London, Centre for Environmental Policy, London, UK;* [f]*International Institute for Environment and Development, London, UK;* [g]*United Nations Development Programme, NY, USA*

(*Received 25 September 2013; final version received 7 August 2014*)

While most adaptation actions occur at the local level, there is an absence of commitment at the international level to channel adaptation finance to local communities. Without such a commitment, there is a risk that climate finance will continue to support top-down, centralized activities that may struggle to address the needs of vulnerable communities. This paper explores ways in which community-based adaptation is presently being mainstreamed through the multilateral funds that are used to channel adaptation finance under the United Nations Framework Convention on Climate Change process, and points to two promising examples that demonstrate this. The first is the Small Grants Programme of the Global Environmental Facility, an established modality through which community organizations can access finance to manage their adaptation needs. The second is the direct access modality of the Adaptation Fund, which devolves decision-making power from multilateral agencies towards the national and local levels. At the country level, experiences from Nepal demonstrate an institutional environment that helps to prioritize the adaptation needs of the most vulnerable. Nepal achieves this by mandating that at least 80% of available finance flows to the community level, and that the implementation of projects is conducted in a bottom-up and inclusive process.

Keywords: adaptation financing; community-based adaptation; UNFCCC; mainstreaming; climate policy

Downloaded by [61.247.186.58] at 00:56 07 December 2014

1. Introduction

The effects of rising temperatures, changing rainfall patterns, and extreme weather events exacerbated by climate change are causing severe and diverse impacts with implications for society and sustainable development (IPCC, 2012). Climate change poses a particular threat to developing countries, so developed countries have agreed under the United Nations Framework Convention on Climate Change (UNFCCC) to provide adaptation finance to help developing countries adapt to the impacts of climate change (UNFCCC, 2011).

In view of the increased adaptation finance expected to be raised by the international community under the UNFCCC, this paper explores ways in which adaptation finance has been channelled from finance institutions to community-based adaptation (CBA) initiatives to date, and the delivery mechanisms that have shown potential in up-scaling CBA.

Drawing on Schipper, Ayers, Reid, Huq, and Rahman (2014), we define up-scaling as horizontal replication and vertical mainstreaming of CBA efforts. Horizontal replication refers to the expansion or reproduction of existing efforts through multiple, small initiatives, while vertical mainstreaming refers to the integration of CBA into dominant policy and practice in local, regional, national, or even supra-national institutions (see Pelling, 2011). We recognize that many other definitions of up-scaling exist (see Schipper et al., 2014); however, for the purposes of this paper we focus on these elements.

Overall, we find that the majority of adaptation finance channelled through international mechanisms has been managed by multilateral entities without a strong focus on locally designed and locally implemented solutions that address the needs of the most vulnerable. This paper posits that significant resources must be channelled to developing countries not only at the national level, but also at the local level to enable adaptation to be effectively addressed.

2. CBA: top-down and bottom-up approaches

One of the ways in which adaptation efforts are characterized is either “bottom-up” or “top-down”: a form of

*Corresponding author. Email: eeaff@leeds.ac.uk

© 2014 The Author(s). Published by Taylor & Francis.
This is an Open Access article. Non-commercial re-use, distribution, and reproduction in any medium, provided the original work is properly attributed, cited, and is not altered, transformed, or built upon in any way, is permitted. The moral rights of the named author(s) have been asserted.

Downloaded by [61.247.186.58] at 00:56 07 December 2014

distinction whose origin lies in the policy implementation literature (Urwin & Jordan, 2008). For the purposes of this paper, top-down policy implementation refers to policies created by government, which tend to rely on expert technical advice, which are then operationalized at the local level. A bottom-up approach recognizes the importance of local context and other actors, particularly those at the level in which adaptation is operationalized, in formulating and implementing policies (see Urwin & Jordan, 2008; Van Aalst, Cannon, & Burton, 2008). In practice, the distinction between them can be blurred since bottom-up adaptation can be linked to government policies and plans and also follow set procedures.

CBA has often been referred to as a bottom-up approach (Sabates-Wheeler, Mitchell, & Ellis, 2008) and is becoming increasingly popular for operationalizing local inclusiveness (Ayers, 2011; Forsyth, 2013). CBA is different from top-down approaches as it is a community-led process, allowing climate vulnerability to be addressed at the local level in its specific context of impacts and adaptive capacity (Ayers & Forsyth, 2009; Forsyth, 2013). Building on the priorities, needs, knowledge, and capacities of communities, it empowers local-level climate-vulnerable stakeholders to be able to plan and cope with immediate climate variability and long-term climate change (Ensor & Berger, 2010; Reid et al., 2009). Climate-vulnerable stakeholders are groups or individuals vulnerable to the adverse effects of climate change. CBA centres on local knowledge of climatic hazards, as well as top-down model-based projections (Reid et al., 2009).

As climate change is only one of the stressors faced by climate-vulnerable stakeholders, interventions focusing exclusively on climate risks will be unlikely to reflect community priorities (Reid et al., 2009). CBA seeks to accommodate this by building upon participatory processes with local stakeholders, and development and disaster risk-reduction practitioners (Huq & Reid, 2007; Reid et al., 2009). Consequently, CBA often has additional poverty reduction and livelihood benefits, as well as reducing vulnerability to climate change and disasters (Reid et al., 2009). CBA may resemble typical development; however, the difference is that CBA incorporates in the potential impact of climate change on livelihoods and vulnerability to disasters (Reid et al., 2009).

It is unlikely that either form of adaptation will be sufficient in isolation from the other. For instance, justifications for financing top-down adaptation are often based on the constraints of bottom-up adaptation such as limited information, incentives, and access to resources which inhibit adaptation (Smit et al., 2001; Vernon, 2008). However, insufficient information held by governments on local issues also restricts possibilities for top-down adaptation, contributing to a need for bottom-up approaches (Moench & Dixit, 2004). Additionally, Moser and Satterthwaite (2008, p. 18) note that if

> most city or municipal governments have proved unable or unwilling to provide the infrastructure, services, institutions and regulations to reduce risks from extreme weather events for much of their populations, they are unlikely to develop the capacity necessary to adapt to climate change.

Moreover, Adger, Huq, Brown, Conway, and Hulme (2003) noted that at times the state allows climate-related risks to exist as part of the politicized nature of urban planning and control. Consequently, it cannot be assumed that top-down approaches alone will reduce the vulnerability of marginalized communities. The deficiencies of top-down approaches have increased the relevance of bottom-up approaches at the local scale (Van Aalst et al., 2008). Much adaptation will inevitably continue to be bottom-up (Adger et al., 2003; Yamin, Rahman, & Huq, 2005) and these actions need support to ensure their effectiveness.

Currently, the dominant trend has been towards financing adaptation through top-down efforts (Schultz, 2012; Reid et al., 2009). This is perhaps because of the trend towards programme-based approaches requiring functioning national financial management systems along with rules, procedures, and transparent accounting (Brown & Kaur, 2009). Additionally, a lack of clear distinction between CBA and development (Ayers & Dodman, 2010) has perhaps contributed to the difficulty of financing CBA with official climate finance, which cannot be used to fund adaptation deficits (see Burton, 2004).

3. Overview of existing adaptation finance under the UNFCCC

At the time of writing, institutional arrangements for disbursing adaptation finance under the UNFCCC are in practice managed by the Global Environment Facility (GEF), the World Bank, and the Adaptation Fund Board. At COP-7 in 2001, the Marrakesh Accords (UNFCCC, 2002) declared the delivery of climate finance would be through replenishment of the GEF, bilateral and multilateral sources, and three specially set up funds: the Least Developed Country Fund (LDCF), the Special Climate Change Fund (SCCF), and the Kyoto Protocol Adaptation Fund (henceforth referred to as the Adaptation Fund). In addition to UNFCCC funds is the independent Pilot Programme for Climate Resilience (PPCR), a component of the Strategic Climate Fund (SCF), one of two funds within the World Bank's Climate Investment Funds (CIFs).

To date, the LDCF has allocated US$293.6 million for the preparation and implementation of National Adaptation Programmes of Actions (NAPAs), while the SCCF has allocated US$167.6 million for adaptation, technology transfer, and capacity-building (GEF, 2013a). The PPCR has allocated US$399 million for the integration of climate risk in national and sectoral development planning

(CIF, 2013). The Adaptation Fund has allocated US$231.5 million to concrete adaptation projects and programmes in developing countries (Adaptation Fund, 2014).

At the COP-16 conference in Cancun 2010, Annex-I countries committed to disbursing US$30 billion of "fast-start finance" between 2010 and 2012; and to mobilize US$100 billion per annum by 2020 under the Green Climate Fund (GCF), to support both adaptation and mitigation (UNFCCC, 2011). At the COP-18 conference in Doha 2012 and COP-19 in Warsaw 2013; Annex-I countries were encouraged and urged respectively to continue mobilizing finance at increasing levels from fast-start finance levels (UNFCCC, 2013, 2014). This represents a significant pool of finance that can be used to finance adaptation in developing countries.

While this represents a substantial amount of available finance, it has been shown to be inadequate by recent estimations of adaptation finance requirements (cf. Parry et al., 2009; Stern, 2007; UNFCCC, 2007; World Bank, 2006, 2010). These estimations may also underestimate total requirements. The World Bank (2010) estimated the costs of climate-proofing existing infrastructure at US$70–100 billion per year by 2050 with a 2°C temperature rise – a level of warming which could well be exceeded with current mitigation pledges (Hare et al., 2013). If available finance is less than what is needed, this makes the efficient use of resources paramount.

4. Possibilities for financing CBA under existing UNFCCC architecture

CBA is currently financed from a mixture of private sources and public sources such as overseas development assistance (ODA). However, this paper restricts its focus to the multilateral funds used to channel adaptation finance committed under the UNFCCC process. These funds are the LDCF, SCCF, Adaptation Fund (as funds created under the Convention and its Kyoto Protocol), and PPCR. In addition, the Small Grants Programme of the GEF (GEF-SGP) is considered despite not having a specific mandate nor any direct financial donations from countries as part of UNFCCC-related commitments. The GEF-SGP is considered because of its experience with CBA, and because it is funded via the GEF to which funds can be made as part of official climate finance commitments.

One way to assess the availability of finance for CBA under the UNFCCC architecture is by considering the mandates and access modalities of the dominant multilateral actors charged with delivery of adaptation finance.

Finance from the LDCF and SCCF is accessed by developing-country governments through submission of proposals to the GEF via permitted implementing agencies. Funds are allocated to projects responding to priorities identified in NAPAs or that conform to criteria based on guidance from the Convention. The access modalities of the LDCF and SCCF have been previously criticized (see Ayers & Huq, 2009), with some developing countries eager to propose ways for finance to be channelled more directly (see Talvela & Uitto, 2009).

Regarding the specific role of CBA, the GEF (2006, p. 6) acknowledges that developing countries have identified CBA as a "cross-sectoral priority requiring urgent attention". Review criteria for funding proposals are sufficiently flexible to allow the financing of community-level adaptation activities, but they do not make the financing of such activities obligatory or require the directing of finance to local-level actors. There are cases where LDCF-funded projects and programmes strongly incorporate CBA elements, such as the "Community-based Adaptation to Climate Change through Coastal Afforestation" project carried out in coastal Bangladesh (MoEF, 2008; Rawlani & Sovacool, 2011).

The entity that has thus far raised the largest amount of adaptation finance is the PPCR (Climate Funds Update, 2013) that distributes grants and loans to a selected group of 18 countries considered to be highly vulnerable (CIF, 2009). Finance is accessed through multilateral development banks, which implement programmatic activities in coordination with the national government and other recipient-country stakeholders. Its investment priorities emphasize action at the national level with the aim of integrating climate risk into national and sectoral development plans (CIF, 2009). The focus, therefore, is not on community-level adaptation activities, though recently some country programmes such as in Zambia have been integrating CBA activities (CIF, 2014).

The Adaptation Fund was given a specific mandate under decision 1/CMP.4 to finance concrete adaptation activities with a strategic focus on giving special attention to the needs of the most vulnerable communities (UNFCCC, 2009). Such a mandate may make the Adaptation Fund more closely aligned with the needs of CBA. Like the LDCF and SCCF, the Adaptation Fund allows countries to access funds through multilateral intermediaries who supervise the implementation of activities. But it has reserved half of available funds for "direct access" by National Implementing Entities (NIEs) that become eligible to make applications after passing an accreditation process. To date, over US$44 million has been accessed by NIEs in 5 countries; 12 countries with accredited NIEs have not yet accessed grant finance for programmes through direct access, however, 10 countries are in the process of formulating proposals.

The direct access modality was designed to increase national ownership of adaptation projects and programmes (Brown, Bird, & Schalatek, 2010) and has been praised by civil society as an innovative approach seeking to ensure country ownership, as well as increasing country oversight and accountability (Brown et al., 2010; Horstmann & Abeysinghe, 2011). The process of direct access bypasses multilateral intermediaries and devolves fiduciary risk management powers to national-level entities, either state or

Downloaded by [61.247.186.58] at 00:56 07 December 2014

Downloaded by [61.247.186.58] at 00:56 07 December 2014

non-state actors depending on country preference. Through devolution of management powers, direct access shifts decision-making to national and sub-national levels (Marston, 2013; Mueller, 2013). Direct access, as used by the Adaptation Fund, may therefore represent an opportunity for communities to achieve a greater voice in the allocation of finance to address community-level adaptation needs. An example of an Adaptation Fund financed programme that has helped to up-scale finance for CBA in Senegal is shown in Box 2.

The GEF-SGP has itself distributed over US$14.7 million in grants for CBA since 1992, and has mobilized over US$5 million in total cash co-financing and over US$ 9 million of in-kind co-financing for CBA over this period (GEF-SGP, 2014). The funds for CBA within the GEF-SGP make up a small proportion of the total of US$450 million in grants distributed since 1992, which includes activities such as land degradation and sustainable forest management, however, there are reasonable grounds to assume these activities have elements which can be considered as CBA.

The GEF-SGP supports non-government organization (NGO) and community-based organization (CBO) projects in developing countries on various thematic areas, one of which is adaptation. The CBA component of the GEF-SGP makes grants of up to US$50,000 directly to NGOs or CBOs with the aim of developing community-based capacity and tools to respond to adverse impacts of climate change; supporting CBA projects in selected countries; and disseminating lessons learned at the community level (GEF, 2008).

GEF-SGP activities are implemented through a National Steering Committee and guided by Technical Advisory Groups, comprising civil society, government ministries, GEF country operational focal point, and UN Convention desk officers. Working with a sub-regional modality, and National Steering Committee or National Focus Group, enables GEF-SGP to reach remote communities. The difficulties of working with community groups with little or no capacity are reduced through an initial grant of US$5000 for planning CBA projects. This reduces the risks posed by immediately disbursing relatively large sums while improving the ability of communities to convene, discuss, and plan remedial actions and measures which can provide community-owned and implemented solutions. Risk management techniques during the project execution phase further allow GEF-SGP to retain standards and flexibility compared to other funds which use more technical disbursement processes.

While limited provision exists for community influence within the LDCF, SCCF, AF, and PPCR; it remains unclear what proportion of adaptation finance from these entities is being directed to activities designed or implemented by communities at local levels. However, it seems that the proportion of adaptation finance going through these funds towards CBA is low. Currently, there are few ways for climate-vulnerable stakeholders at the local level to access adaptation finance. Of the funds described above, only the GEF-SGP has an application mechanism for community groups. In contrast to the direct access window of the Adaptation Fund, finance is channelled by the LDCF, SCCF, and PPCR to intermediary entities, which in turn flows to the national government, to sub-national government, and at times NGO actors. In some cases, NGO actors executing adaptation activities may include community organizations. However, within this way of working, bottlenecks exist in channelling adaptation finance from national to local levels, and only a small proportion may reach local communities (Christensen et al., 2012).

Such a system provides donors with the expectation of strong fiduciary risk management, low transaction costs, and transparency in the delivery of adaptation finance. However, it could be detrimental to ensuring effective solutions for the most vulnerable by narrowing opportunities for communities to access funds to implement local-level adaptation solutions.

5. Increasing financial flows to the local level

The absence of an international commitment to channel a significant proportion of adaptation finance to the local level contradicts with the common understanding that adaptation occurs at this level, and that institutions at this level are important determinants of successful adaptation (Agrawal, 2008; Black, 2010). Without such a commitment, there exists the risk that the significant climate funds being mobilized under the UNFCCC may be used to finance top-down, centralized project activities that may suit the interests of more powerful stakeholders, but struggle to bring benefits to the most vulnerable communities.

At a time when the climate change negotiations centre on achieving a new global agreement by 2015 and financial commitments are to be scaled up to US$100 billion by 2020, there is the expectation from developing countries that climate finance achieve new scales (Griesshaber, 2012). The present time, therefore, is opportune for committing to ensuring that funds reach communities and allow them to implement urgently needed adaptation activities in their local context.

It has been suggested that providing finance to local government institutions, like the case of the potentially replicable Local Adaptation Plans for Action (LAPA) in Nepal (Box 1), could play a role in empowering communities towards CBA (Christensen et al., 2012). The Government of Nepal has recognized the need to ensure that finance reaches the local level, by invoking national-level policies providing that at least 80% of total funds available for climate change activities flow to the local level (GoN, 2011). No such commitment has yet been made internationally at the level of the UNFCCC, nor by funds created under the Convention and its Kyoto Protocol, nor has the international community made moves in this direction through bilateral development agencies. A commitment similar to the Nepalese policy to

Downloaded by [61.247.186.58] at 00:56 07 December 2014

ensure finance flows to the local level could be instrumental in ensuring that adaptation finance under the UNFCCC reaches vulnerable communities.

Box 1. Ensuring country architecture mainstreams CBA: opportunities and challenges from the LAPA in Nepal.

As one of the last countries to develop its NAPA, Nepal has been able to learn lessons from other countries (Regmi & Karki, 2010). The NAPA process in Nepal emerged from a growing realization that to achieve mainstreaming of adaptation into development across scales, there was a need to link between national-level climate change activities and local planning (Regmi & Karki, 2010).

In November 2011, the Government of Nepal endorsed the LAPA framework, which provides opportunities to implement NAPA priorities with participation of local communities in a bottom-up and inclusive process. Nepal's Climate Change Policy and NAPA documents have made mandatory provisions which intend to disburse at least 80% of the available financial resources directly for local-level implementation of adaptation actions (GoN, 2011).

The LAPA intends to facilitate mainstreaming through the integration of climate change resilience into local-to-national development planning processes, including integration of adaptation priorities into village, municipality, and district planning processes in accordance with the Local Self Governance Act (GoN, 2011). The LAPA process provides opportunities to assess site-specific climate vulnerabilities, identify adaptation options, and implement adaptation actions with participation of local communities. The guiding principles of the LAPA manual are processes that are "bottom-up, inclusive, responsive, and flexible", with Village Development Committees (VDCs) and Municipalities being identified as the most appropriate operational units for LAPA planning (GoN, 2011).

Challenges exist in mainstreaming adaptation finance at the national level in Nepal, including concerns about lack of integration between the NAPA and PPCR finance (Ayers, Kaur, & Anderson, 2011). There can be trade-offs between rapid disbursement and capacity-building, as shown by concerns that the Strategic Priority for Climate Resilience's use of consultants as opposed to Ministry of Environment (MoE) staff achieved a fast turnaround at the expense of government ownership and capacity-building (Ayers et al., 2011).

In addition, there is arguably a trade-off between capacity and ownership. In Nepal, concerns regarding the public financial management system have led to finance being provided through bilateral projects outside the central budget (Wiseman & Chhetri, 2011), leading to concern that capacity and governance constraints are being sidestepped rather than tackled. In the LAPA, there has also been a lack of clarity about how funds will be administered and who will act as trustee (Oxfam, 2011). Due to the fiduciary risk, some major bilateral agencies said they were not able to channel funds through the MoE. The UK's Department for International Development pushed for implementation through managing agents, given MoE capacity constraints (Wiseman & Chhetri, 2011). Meanwhile, MoE stressed that LAPA funding should go through government, channelled to appropriate line agencies (Wiseman & Chhetri, 2011). This demonstrates tensions between donors and government in LAPA implementation. The United Nations Development Programme (UNDP) has now been designated as the implementing agency (Uprety, 2013).

Decentralization is complicated by the risk of corruption in the VDCs which tend to be controlled by local elites (Watt, 2012). Furthermore, VDC institutions can exclude participation of lower-caste communities such as Dalits (Jones & Boyd, 2011). There have been improvements in financial management at the local level, but bottlenecks remain and weak fiduciary systems are a concern (Wiseman & Chhetri, 2011). While limits to local adaptation and institutional capacity to respond exist, this should not undermine the value of input and participation of communities and their institutions, since communities do have knowledge, skills, and wealth to draw upon that will help in lessening dependency on financing and technology (Regmi & Bhandari, 2013). Furthermore, while capacity is certainly a concern, channelling finance and resources through local institutions can itself lead to strengthened capacities (Christensen et al., 2012).

Although operational issues exist, the case of Nepal is important in demonstrating what can be done at the recipient country level to create an institutional environment to facilitate adaptation finance being mainstreamed into CBA and development processes at the local level. CBA is centred around communities' priorities, needs, and strategies, but needs to be embedded in broader strategies (mainstreamed) for wider impact. With this in mind, the LAPA provides an example of combining of bottom-up and top-down adaptation, and demonstrates how sufficient financial flows can be channelled accordingly to reach the local level.

Without such a commitment, delivering significant climate finance from international sources for adaptation at the community level could be achieved through one of two ways: either working within the constraints of existing multilateral systems, or by seeking alternative, parallel channelling systems. Given the urgency with which climate impacts are increasingly being experienced, and the slow pace of fostering consensus on new international agreements, there are benefits to building on the innovative aspects of the climate finance architecture already in place that show potential in terms of up-scaling CBA. The GEF-SGP and the Adaptation Fund demonstrate potential in this respect.

5.1. *GEF-SGP*

At the fund level, the GEF-SGP has been found to have the most specific focus on financing CBA and to be most accommodating to applications by community-level groups. The GEF-SGP has also demonstrated an ability to lead to the up-scaling of finance for CBA and the practice of CBA by other donors and international funds. Projects are required to demonstrate capacity for horizontal replication, as well as provide evidence-based results (GEF, 2012). This has contributed to the mainstreaming of lessons learned into larger adaptation projects or development processes (GEF, 2008, 2012; GEF-SGP, 2013). For instance, lessons learnt in Namibia from GEF-SGP projects have been integrated into the SCCF project in Namibia (GEF, 2013d). Its inclusive approach has led to the

Downloaded by [61.247.186.58] at 00:56 07 December 2014

dissemination of CBA ideas among national-level policy-makers. For example in Jamaica, the GEF-SGP National Coordinator has been invited by government to contribute to the ongoing climate change strategy and national policy preparations process. GEF-SGP also has experience in channelling finance committed under the Convention as it was previously the delivery mechanism of the CBA component of the now-closed Strategic Priority "Piloting an Operational Approach to Adaptation" (SPA), which was charged to the GEF in 2001. Additionally, it has experience crowding in finance from bilateral sources and other international funds in the form of co-financing (GEF-SGP, 2013).

Despite the promise of the GEF-SGP, adaptation and CBA only form part of its activities and its activities require a strong focus on training for capacity-building, reducing resources available for concrete activities that address urgent adaptation needs. Other limitations include operating at the project rather than programme scale; while available finance is substantially less than in other climate funds. Although up-scaling of successful projects has occurred, this is not always the case. When up-scaling does not occur, existing institutional and fiscal boundaries can restrict initiatives to small "islands of success" (Huq & Faulkner, 2013). Limited community capacity and enabling policy environments potentially hinder attempts to scale-out as fiduciary standards may not be met. While CBOs can apply to the GEF-SGP, local government institutions cannot apply, which may limit the extent to which CBA is mainstreamed at local-level formal government institutions. There are also obvious transaction costs incurred by dealing with many small projects instead of a few large programmes.

However, the GEF-SGP has a clear role to play in piloting tools and activities, demonstrating that these can fit within national policy and planning, and finally demonstrating that channelling finance directly to community-level interventions is viable through the multilateral system. Furthermore, by requiring projects to demonstrate evidence-based results and potential for replication and expansion, the GEF-SGP builds the foundation for horizontal replication of CBA at the local level, and the mainstreaming of CBA in other projects or programmes of other donors and international funds. Increasing finance to the GEF-SGP is a clear option for increasing finance for CBA; however, the lack of a clear mandate from the UNFCCC may frustrate such attempts. One potential option is to use the GEF-SGP as a vehicle through which components of the programmes from other funds can be operationalized. An example of this is the Adaptation Fund programme in the Cook Islands which disbursed small grants through the GEF-SGP.

5.2. *Adaptation Fund*

At the larger scale, and at the level of funds specifically mandated to deliver climate finance, the Adaptation Fund demonstrates the first case of the devolution of decision-making powers to national and sub-national levels. Within the model of direct access, authority over the formulation, design, and implementation of interventions rests entirely with accredited national entities, dispensing with the influence of multilateral intermediaries. In order to access funds, these entities must demonstrate that the adaptation benefits achieved with the help of the project/programme can be sustained after its end, and should enable replication and expansion after its completion through, for example, policy, governance, and other arrangements as required (Adaptation Fund, 2013a).

Box 2. Ensuring international climate funds mainstream CBA – Adaptation Fund and Senegal.

In 2010, Senegal was the first country to be awarded finance from the Adaptation Fund, for a US$8.6 million programme entitled "Adaptation to Coastal Erosion in Vulnerable Areas". The programme was implemented and supervised through the direct access modality by the Centre de Suivi Ecologique (CSE), a Senegalese entity that had demonstrated compliance with the Fund's fiduciary standards. The project sought to protect coastal areas in three locations (Rufisque, Saly, and Joal) against erosion exacerbated by sea level rise; to construct anti-salt dykes to reduce salinization of agricultural land used to grow rice; to assist local communities to manage fish processing; to raise awareness regarding adaptation; and to develop and implement updated regulations that would mainstream climate change into coastal area management.

Two non-governmental entities, Green Senegal and Dynamique Femmes, led the implementation of over US$1.1 million of programme activities. They undertook stakeholder consultations during the design stage of programme activities, and sought inputs from local communities on potential solutions to adaptation challenges (Dossou et al., 2012). These entities had a history of working with local communities, demonstrating the potential for direct access to devolve decision-making and responsibility to the local level.

Specific interventions were decided upon following inputs from affected populations, including women's groups in Joal, as well as vulnerability studies that contributed to development of Senegal's NAPA (Dossou et al., 2012). Such an approach demonstrates a combination of bottom-up influence from community voices in decision-making coupled with top-down information on climate scenarios and adaptation options.

The Senegalese programme can be considered as best practice in mainstreaming climate change from a dual perspective. Firstly, it strikes an effective balance between concrete measures, such as coastal infrastructural measures that address pressing community needs; and elements of training, capacity enhancement, and policy reform that lay the groundwork for longer term transition towards inclusion of climate change into development planning across community to national scales. Secondly, the groundwork put in place by Senegal to get a national entity accredited through the direct access system resulted in strengthened procurement, transparency, and project monitoring (Adaptation Fund, 2012) as well as establishment of mechanisms for community involvement to ensure that the programme benefits the most vulnerable people (Dossou et al., 2012).

Downloaded by [61.247.186.58] at 00:56 07 December 2014

The Senegal programme demonstrates a number of important lessons. Its achievements include the substantial completion of coastal protection infrastructure, the close involvement of civil society and community members, and a tailored communication strategy that comprises a diverse range of media from radio programmes to traditional wrestling sessions that communicate adaptation messages.

Challenges faced include ensuring equitable distribution of programme benefits. In an area of Rufisque, community consultations led to the prioritization of vulnerable areas for protection by coastal infrastructure. CSE ameliorated concerns held by adjacent communities who did not directly benefit from the programme by holding consultations with the parties involved.

The experience of Senegal demonstrates the need to manage expectations among potential stakeholders from an early stage, and to ensure difficult decisions are taken transparently with community members being fully informed of the likely implications of the decisions made. The benefits of this particular intervention include the close involvement of communities in decision-making and the concrete outcomes for the most vulnerable communities. Such a legacy could prove invaluable in delivering CBA solutions in Senegal as climate finance evolves.

The 17 national entities accredited to date under the Adaptation Fund include cooperatives, NGOs, research bodies, national trust funds, government agencies, and ministries. To access funds, they are required to give special attention to the most vulnerable communities by demonstrating how any proposed intervention gives them economic, social, and environmental benefits. Applicants must undertake a comprehensive consultation process with all direct and indirect stakeholders, and reflect the results in the proposal design. Despite early problems (see Bird, Billett, & Colón, 2011; Harmeling & Kaloga, 2011) anecdotal evidence from developing countries using direct access suggests that stronger community-level decision-making exists than in similar interventions using conventional delivery mechanisms (Dossou et al., 2012). To date, however, only five entities have accessed project or programme finance through the direct access modality (Adaptation Fund, 2014) and it remains too early to make definitive judgements about its long-term benefits, while the remaining entities continue their efforts to submit proposals on behalf of their countries. Additionally, capacity constraints restrict the ability of potential implementing entities from gaining accreditation – though capacity-building from other actors can overcome this (Bird et al., 2011). Recognizing the challenges that some countries have had in selecting an appropriate candidate entity to become a NIE, the Adaptation Fund Board approved a Readiness Programme (Adaptation Fund, 2013b). The programme, which has an overarching goal of increasing the number of developing countries benefiting from direct access to adaptation finance, aims to increase the number of accredited NIEs from 16 to at least 23, and the number of projects and programmes fully implemented through direct access from 5 to at least 13. This initiative on readiness for direct access should yield new experiences and new data for analysis of the potential of direct access to promote integration of CBA in national processes throughout developing countries.

The common and innovative characteristics of the GEF-SGP and the Adaptation Fund's direct access modality relate to the decentralization of decision-making power to national and sub-national levels. To varying degrees, depending on the specifics of the intervention, this approach brings communities closer into the process of conceptualizing, formulating, and ultimately implementing and evaluating adaptation. As communities in developing countries and CBA practitioners seek to put more power into the hands of those experiencing climate impacts at the local level, experiences from these funding modalities can potentially be integrated throughout the international climate finance architecture. Overall by requiring proposals to take the concerns of communities into account, the Adaptation Fund helps to mainstream CBA processes from the fund level downwards.

Looking ahead, the GCF has committed to using simplified access to funding, including direct access as a delivery mechanism (GCF, 2013). Likewise, since its fifth replenishment the GEF has used direct access modalities. However, this is different to its interpretation under the Convention (UNFCCC, 2008) and made operational through the Adaptation Fund, where power is expected to be devolved to the national level. Under the GEF, countries can only directly access limited finance for national portfolio formulation exercises and preparation of Convention reports (GEF, 2013b). While of those under consideration for accreditation as implementing entities, only four were not regional- or international-level entities (GEF, 2013c). As deliberations on raising funds and operationalizing access modalities ensue, the international community could look to the GEF-SGP and Adaptation Fund for innovative approaches to ensure that finance for adaptation reaches the most vulnerable at the community level. While efforts to successfully up-scale finance for CBA will be helped by the replication of modalities such as those used by the GEF-SGP and Adaptation Fund, they may not alone be sufficient. CBA is likely to receive more climate finance if it operates within a national-level institutional environment that commits resources to the local level, an example being Nepal's LAPA. A similar commitment at the UNFCCC level or by funds operating under the Convention and its protocol would facilitate the transition to this institutional environment.

6. Conclusion

With finance under the UNFCCC expected to rise, the time is now favourable for exploring ways in which adaptation finance has been channelled from finance institutions to CBA initiatives to date, and how these achievements can

be up-scaled. Currently, it is very difficult to calculate the amount of climate finance being channelled towards CBA as this is not being reported. Self-reporting by climate funds would help ameliorate this issue; however, this is inhibited by the lack of a mandate to spend secretariat resources doing so, the absence of an international commitment to dedicate a certain proportion of adaptation finance to local communities, and definitional issues that frustrate the identification of CBA in implemented projects.

This paper has assessed adaptation finance mandates and access modalities in order to explore ways finance is being channelled towards CBA activities. Of the large funds which have received official financial commitments under the UNFCCC, it is the Adaptation Fund that has thus far implemented rules and procedures to promote institutionalized usage of CBA in adaptation programmes. It achieves this through its mandate to serve the needs of the most vulnerable communities, by demanding that proposals give special attention to vulnerable communities; and via its direct access modality, channelling finance through implementing entities more likely to be accountable to local communities. The LDCF, SCCF, and PPCR have financed programmes, which have involved CBA processes, but these processes are not as institutionalized as they are in the rules and procedures of the Adaptation Fund and the CBA component of the GEF-SGP. In short, they neither promote nor exclude CBA in potential programmes.

The GEF-SGP has been found to be most accommodating to applications by community-level groups, while also demonstrating an ability to lead to the up-scaling of CBA. However, finance available in this modality is significantly smaller than other funds explored in this paper. Yet, the GEF-SGP has a clear role to play in piloting evidence-based tools and activities, demonstrating that CBA can fit within national policy and planning, and finally demonstrating that channelling finance directly to communities is a viable option.

It is quite possible that some aspects of the rules and procedures of the Adaptation Fund and GEF-SGP could be incorporated by other UNFCCC funds. Proposals could be required to give special attention to, and implement activities via institutions downwardly accountable to climate-vulnerable stakeholders. However, up-scaling favourable modalities and procedures at fund-level may not alone suffice. There must be efforts to integrate CBA into national policy and planning with a commitment to dedicate resources to local levels. The Nepalese LAPA framework demonstrates a national-level institutional environment that can facilitate this outcome. The LAPA is an example of the integration of bottom-up and top-down approaches to adaptation, demonstrating how financial flows for adaptation can be channelled to local levels. It achieves this by requiring that at least 80% of total funds available for climate activities flow to the grassroots level; and by requiring that project implementation is conducted with the participation of local communities in a bottom-up and inclusive process. Such a commitment could be made at the UNFCCC level, or the funds operating under the Convention and its Kyoto Protocol. If climate funds under the UNFCCC process enacted similar measures, more appropriate levels of finance are likely to be channelled towards CBA activities.

Acknowledgements

We thank Professor Jouni Paavola, Dr Stavros Afionis, and Dr Hannah Reid for helpful comments on earlier versions of the manuscript.

Disclaimer

This article is the result of a collaboration between academic researchers and practitioners in the field of climate finance. The findings, interpretations, and conclusions expressed by the authors are their own and not of the institutions with whom they are affiliated.

References

Adaptation Fund. (2012). *Report on the learning mission to Senegal*. Retrieved from https://www.adaptation-fund.org/sites/default/files/AFB.EFC_.10.5.Report_of_the_Learning_Mission_to_Senegal.pdf

Adaptation Fund. (2013a). *Instructions for preparing a request for project or programme funding from the Adaptation Fund*. Retrieved from https://www.adaptation-fund.org/sites/default/files/OPG%20ANNEX%204-2%20Instructions%20(Nov2013).pdf

Adaptation Fund. (2013b). *Options for a programme to support readiness for direct access to climate finance for national and regional implementing entities*. Retrieved from https://www.adaptation-fund.org/sites/default/files/AFB.B.22.6%20Options%20for%20a%20climate%20finance%20readiness%20programme%20for%20NIEs%20and%20RIEs_0.pdf

Adaptation Fund. (2014). *Funded projects*. Retrieved from https://www.adaptation-fund.org/funded_projects

Adger, W.N., Huq, S., Brown, K., Conway, D., & Hulme, M. (2003). Adaptation to climate change in the developing world. *Progress in Development Studies*, *3*(3), 179–195.

Agrawal, A. (2008). *The role of local institutions in adapting to climate change*. Retrieved from http://www.icarus.info/wp-content/uploads/2009/11/agrawal-adaptation-institutions-livelihoods.pdf

Ayers, J. (2011). Resolving the adaptation paradox: Exploring the potential for deliberative adaptation policy-making in Bangladesh. *Global Environmental Politics*, *11*(1), 62–88.

Ayers, J., & Dodman, D. (2010). Climate change adaptation and development I: The state of the debate. *Progress in Development Studies*, *10*, 161–168.

Ayers, J., & Forsyth, T. (2009). Community-based adaptation to climate change: Strengthening resilience through development. *Environment: Science and Policy for Sustainable Development*, *51*(4), 22–31.

Ayers, J.M., & Huq, S. (2009). Supporting adaptation to climate change: What role for official development assistance?.

Downloaded by [61.247.186.58] at 00:56 07 December 2014

Development Policy Review, 27(6), 675–692. doi: 10.1111/j.1467-7679.2009.00465.x

Ayers, J., Kaur, N., & Anderson, S. (2011). Negotiating climate resilience in Nepal. *IDS Bulletin*, *42*(3), 70–79.

Bird, N., Billett, S., & Colón, C. (2011). *Direct access to climate finance: Experiences and lessons learned*. ODI/United Nations Development Programme.

Black, E. (2010). Climate change adaptation: Local solutions for a global problem. *22 GEO. INT'L ENVTL. L. REV*, 359–360.

Brown, J., Bird, N., & Schalatek, L. (2010). *Direct access to the Adaptation Fund: Realising the potential of National Implementing Entities*. Climate Finance Policy Brief No. 3, ODI.

Brown, J., & Kaur, N. (2009). *Financing adaptation: Matching form with function*. Background Note. London: Overseas Development Institute.

Burton, I. (2004). Climate change and the adaptation deficit. In A. Fenech, D. MacIver, H. Auld, R. Bing Rong, & Y. Yin (Eds.), *Climate change: Building the adaptive capacity* (pp. 25–33). Toronto: Meteorological Service of Canada, Environment Canada.

Christensen, K., Raihan, S., Ahsan, R., Uddin, A.M.N., Ahmed, C.S., & Wright, H. (2012). *Financing local adaptation: Ensuring access for the climate vulnerable in Bangladesh*. Dhaka: ActionAid Bangladesh, Action Research for Community Adaptation in Bangladesh, Bangladesh Centre for Advanced Studies, and International Centre for Climate Change and Development.

CIF. (2009). *The selection of countries to participate in the Pilot Program for Climate Resilience (PPCR) Report of the Expert Group to the Subcommittee of the PPCR*. Retrieved July 24, 2013, from https://www.climateinvestmentfunds.org/cif/sites/climateinvestmentfunds.org/files/PPCR_Selection_of_Countries_to_Participate_Report_of_the_Expert_Group_fin al.pdf

CIF. (2013). *Pilot program for climate resilience*. Retrieved July 25, 2013, from https://www.climateinvestmentfunds.org/cif/Pilot_Program_for_Climate_Resilience

CIF. (2014). *Zambia's PPCR strategic program*. Retrieved January 15, 2014, from https://www.climateinvestmentfunds.org/cifnet/investment-plan/zambias-ppcr-strategic-program

Climate Funds Update. (2013). *Data*. Retrieved August 1, 2013, from http://www.climatefundsupdate.org/data

Dossou, K., Ferrera, I., Rodriguez, E., Harmeling, S., Kaloga, A. O., Kakakhel, K.S., … , Seck, E. (2012). *Independent insights from vulnerable developing countries*. Adaptation Fund NGO Network. Retrieved July 28, 2013, from http://germanwatch.org/en/download/7568.pdf

Ensor, J., & Berger, R. (2010). *Governance for community-based adaptation*. Rugby: Practical Action, the Schumacher Centre for Technology and Development.

Forsyth, T. (2013). Community-based adaptation: A review of past and future challenges. *Wiley Interdisciplinary Reviews: Climate Change*, *4*(5), 439–446.

GCF. (2013). *Mandate and governance*. Retrieved July 28, 2013, from http://gcfund.net/about-the-fund/mandate-and-governance.html

GEF. (2006). *Programming paper for funding the implementation of NAPAs under the LDC Trust Fund*. GEF/C.28/18. Global Environmental Facility.

GEF. (2008). *Joint evaluation of the GEF small grants programme* (Evaluation Report No. 39). Washington, DC: Global Environment Facility Evaluation Office.

GEF. (2012). *Replication and up-scaling*. Retrieved January 15, 2013, from https://sgp.undp.org/index.php?option=com_content&view=article&id=117&Itemid=192#.UtZrTPRSZVI

GEF. (2013a). *Data mapping portal*. Retrieved January 15, 2013, from http://www.thegef.org/gef/RBM

GEF. (2013b). *Direct access for national communications and biennial update reports to UNFCCC*. Retrieved January 20, 2013, from http://www.thegef.org/gef/CC_direct_access

GEF. (2013c). *Progress report on the pilot accreditation of GEF project agencies*. Washington, DC: Global Environmental Facility.

GEF. (2013d). *Project identification form*. Retrieved May 14, 2014, from http://www.thegef.org/gef/sites/thegef.org/files/gef_prj_docs/GEFProjectDocuments/Climate%20Change/Namibia%20-%20(5343)%20-%20Scaling%20Up%20Community%20Resilience%20to%20Climate%20Variabi/ID5343%20%20Resubmission_Namibia%204711%20PIF%20SCCF_9April2013.pdf

GEF-SGP. (2013). *SGP is implementing a portfolio of over US $16 million in community based adaptation*. Retrieved May 5, 2014, from https://sgp.undp.org/index.php?option=com_content&view=article&id=319&catid=36&Itemid=186#.U3CHwfmSxbc

GEF-SGP. (2014). *Community-based adaptation*. Retrieved May 1, 2014, from http://sgp.undp.org/index.php?option=com_areaofwork&view=summary&Itemid=177

GoN, Government of Nepal. (2011). *National framework on local adaptation plans for action*. Government of Nepal, Ministry of Science Technology and Environment, Singha Durbar.

Griesshaber, L. (2012). *Green climate fund: Timely action needs early pledges*. Retrieved July 28, 2013, from http://germanwatch.org/en/download/6889.pdf

Hare, B., Rocha, M., Jeffery, L., Gütschow, J., Rogelj, J., Schaeffer, M., ... , Höhne, N. (2013). *Warsaw unpacked: A race to the bottom. Climate Action Tracker*. Retrieved from http://climateactiontracker.org/assets/publications/briefing_papers/CAT_Policy_brief_Race_to_the_bottom.pdf

Harmeling, S., & Kaloga, A. (2011). Understanding the political economy of the adaptation fund. *IDS Bulletin*, *42*(3), 23–32.

Horstmann, B., & Abeysinghe, A.C. (2011). The adaptation fund of the Kyoto protocol: A model for financing adaptation to climate change? *Climate Law*, *2*(3), 415–437.

Huq, S., & Faulkner, L. (2013). *Taking effective community-based adaptation to scale: An assessment of the GEF small grants programme community-based adaptation project in Namibia*. International Centre for Climate Change and Development.

Huq, S., & Reid, H. (2007). *Community-based adaptation: A vital approach to the threat climate change poses to the poor*. IIED Briefing. London: IIED.

IPCC. (2012). *Managing the risks of extreme events and disasters to advance climate change adaptation*. A Special Report of Working Groups I and II of the Intergovernmental Panel on Climate Change. Cambridge: Cambridge University Press.

Jones, L., & Boyd, E. (2011). Exploring social barriers to adaptation: Insights from Western Nepal. *Global Environmental Change*, *21*(4), 1262–1274.

Marston, A. (2013). *Reaching local actors in climate finance*. Exploring local access to the Green Climate Fund. Retrieved July 15, 2013, from http://www.bothends.org/uploaded_files/document/130307_Reaching_local_actors_in_climate_finance_Bot.pdf

MoEF. (Ministry of Environment and Forest, Government of the People's Republic of Bangladesh). (2008). *NAPA project document: Community-based adaptation to climate change through coastal afforestation in Bangladesh* (Project ID: PIMS 3873). Dhaka: MOEF/UNDP.

Moench, M., & Dixit, A. (2004). *Adaptive capacity and livelihood resilience: Adaptive strategies for responding to floods*

Downloaded by [61.247.186.58] at 00:56 07 December 2014

Downloaded by [61.247.186.58] at 00:56 07 December 2014

and droughts in South Asia. Institute for Social and Environmental Transition, International, Boulder and Institute for Social and Environmental Transition.

Moser, C., & Satterthwaite, D. (2008). *Towards pro-poor adaptation to climate change in the urban centres of low- and middle-income countries*. Global Urban Research Centre Working Paper No. 1.

Mueller, B. (2013). *'Enhanced (Direct) Access' Through '(National) Funding Entities' – Etymology and Examples Information Note on the Green Climate Fund Business Model Framework*. Oxford Institute for Energy Studies. Retrieved July 20, 2013, from http://www.oxfordclimatepolicy.org/publications/documents/EnhancedDirectAccess-04-2013.pdf

Oxfam. (2011). *Owning adaptation: Factsheet Nepal*. Oxfam International. Retrieved from www.oxfam.org

Parry, M., Arnell, N., Berry, P., Dodman, D., Fankhauser, S., Hope, C., ..., Wheeler, T. (2009). *Assessing the costs of adaptation to climate change. A review of the UNFCCC and other recent estimates*. London: International Institute for Environment and Development/London: The Grantham Institute for Climate Change, Imperial College London.

Pelling, M. (2011). *Adaptation to climate change: From resilience to transformation*. London: Routledge.

Rawlani, A., & Sovacool, B.K. (2011). Building responsiveness to climate change through community-based adaptation in Bangladesh. *Mitigation and Adaptation Strategies for Global Change*, *16*(8), 845–863.

Regmi, B., & Bhandari, D. (2013). Climate change adaptation in Nepal: Exploring ways to overcome the barriers. *Journal of Forest and Livelihood*, *11*(1), 43–61.

Regmi, B., & Karki, G. (2010, July). Local adaptation plans in Nepal. *Tiempo*, *76*.

Reid, H., Alam, M., Berger, R., Cannon, T., Huq, S., & Milligan, A. (2009). Community-based adaptation to climate change: An overview. In H. Ashley & A. Milligan (Eds.), *Participatory learning 60: Community-based adaptation to climate change* (Vol. 60, pp. 11–33). International Institute for Environment and Development.

Sabates-Wheeler, R., Mitchell, T., & Ellis, F. (2008). Avoiding repetition: Time for CBA to engage with the livelihoods literature? *IDS Bulletin*, *39*(4), 53–59.

Schipper, E., Ayers, J., Reid, H., Huq, S., & Rahman, A. (2014). *Community based adaptation to climate change: Scaling it up*. London: Routledge.

Schultz, K.H. (2012). Financing climate adaptation with a credit mechanism: initial considerations. *Climate Policy*, *12*, 187–197.

Smit, B., Pilifosova, O., Burton, I., Challenger, B., Huq, S., Klein, R.J.T., … , Leary, N.A.. (2001). *Adaption to climate change in the context of sustainable development and equity.* In Climate change 2001 impacts adaptation and vulnerability contribution of working group ii to the third assessment report of the intergovernmental panel on climate change. Geneva: IPCC.

Stern, N.H. (2007). *The economics of climate change: The Stern review*. Cambridge: Cambridge University Press.

Talvela, K., & Uitto, J. (2009). *Evaluation of UNDP work with the least developed countries fund and special climate change fund*. UNDP. Retrieved from http://web.undp.org/evaluation/documents/thematic/ldcf/LDCF-SCCF_Evaluation.pdf

UNEP. (2012). *The emissions gap report 2012*. Nairobi: United Nations Environment Programme (UNEP).

UNFCCC. (2002). *Report of the conference of the parties on its seventh session*. Addendum. FCCC/CP/2001/13/Add.1. Bonn: UNFCCC.

UNFCCC. (2007). *Investment and financial flows to address climate change*.

UNFCCC. (2008). *Report of the Conference of the Parties serving as the meeting of the Parties to the Kyoto Protocol on its third session*. Addendum. Part Two: FCCC/KP/CMP/2007/9/Add.1. Bonn: UNFCCC.

UNFCCC. (2009). *Report of the conference of the parties serving as the meeting of the parties to the Kyoto Protocol on its fourth session*. Addendum. Decision 1/CMP.4, Adaptation Fund, FCCC/KP/CMP/2008/11/Add.2. Bonn: UNFCCC.

UNFCCC. (2011). *Report of the conference of the parties on its sixteenth session*. Addendum. Part Two. FCCC/CP/2010/7/Add.1. Bonn: UNFCCC.

UNFCCC. (2013). *Report of the conference of the parties on its eighteenth session*. Addendum. Part Two. FCCC/CP/2012/8/Add.1. Bonn: UNFCCC.

UNFCCC. (2014). *Report of the conference of the parties on its nineteenth session*. Addendum. FCCC/CP/2013/10/Add.1. Bonn: UNFCCC.

Uprety. (2013). Personal communication with Batu Krishna Uprety, Ministry of Environment, Government of Nepal, Bonn, Germany, June 2013.

Urwin, K., & Jordan, A. (2008). Does public policy support or undermine climate change adaptation? Exploring policy interplay across different scales of governance. *Global Environmental Change*, *18*, 180–191.

Van Aalst, M.K., Cannon, T., & Burton, I. (2008). Community level adaptation to climate change: The potential role of participatory community risk assessment. *Global Environmental Change*, *18*, 165–179.

Vernon, T. (2008). The economic case for pro-poor adaptation: What do we know? *IDS Bulletin*, *39*(4), 32–41.

Watt, R. (2012). Linking national and local adaptation planning: Lessons from Nepal, Case study 3, The Learning Hub, IDS, UK.

Wiseman, K., & Chhetri, R. (2011). *Governance of climate change adaptation finance*: *Nepal*. Oxfam Research Report.

World Bank. (2006). *Environmentally & socially sustainable development and infrastructure vice presidencies, 'clean energy and development: Towards an investment framework'*. Washington, DC: Development Committee.

World Bank. (2010). *Economics of adaptation to climate change: Synthesis report*. Washington, DC: The World Bank.

Yamin, F., Rahman, A., & Huq, S. (2005). Vulnerability, adaptation and climate disasters: A conceptual overview. *IDS Bulletin*, *36*(4), 1–14.