

THEME I

Conceptual Context of Community-based Adaptation

1 Unpacking community-based adaptation

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Introduction

Adaptation to climate change is a priority for local communities in developing countries which suffer most from the impacts of climate change. The common definition of adaptation is “adjustment in natural or human systems in response to climatic impacts in a manner that moderates harm or exploits beneficial opportunities”. As the Paris Agreement enters the implementation phase, it is time to shift focus from global and national adaptation decisions to sub-national and local level adaptation actions in order to enable adaptation technologies and resources to reach the local levels where they are most needed.

This book presents evidence on how adaptation technologies, resources and expertise can be devolved to the local level through Community-based Adaptation (CBA) approaches. CBA is a participatory, community-led and environmentally sustainable approach to climate change that seeks to strengthen the resilience of poor and vulnerable communities. The novelty of CBA is not only that it addresses the urgency of adaptation but also that it does so by placing local communities at the centre of adaptation decisions, needs and priorities thus recognising that community knowledge constitutes a more sustainable foundation for climate change adaptation and resilience.

Aspects of CBA approaches (e.g. the use of community participation, indigenous knowledge and grassroots innovations, while upholding human equity and human rights) are key components of a wide array of adaptation policies and programmes at various levels. However, evidence about how CBA operates, and is measured within the wider spectrum of adaptation, is lacking in current literature. Empirical experiences exist in some developing countries such as Nepal and Bangladesh but their findings remain poorly documented and disseminated for up-take and mainstreaming into the broader adaptation policies.

This book consolidates experiences from various developing country contexts as shared during The Ninth International Conference on Community-Based Adaptation (CBA 9). CBA 9 was organized by the International Institute for Environment and Development (IIED), together with the African Centre for Technology Studies (ACTS) and was attended by over 400 participants from across the world including government representatives, donors, scien-

tists, civil society organizations and communities. Information synthesized from the conference, and associated meetings was complemented by field-based evaluations of several CBA-related projects. The gathered information, which mainly focuses on Africa, is captured within the 13 chapters of the book, organised under four thematic areas: CBA concepts; CBA institutions; CBA implementation; and CBA financing.

The next section provides the conceptual perspective of CBA and outlines the thematic organization of the book.

Climate change and local communities

Global climate change currently presents the greatest challenge to humanity. The interaction between climate change and local communities has been widely studied and discussed in academic and policy literature. This interaction can be understood in three perspectives; change causes, impacts and response strategies. The context for the emergence of concepts, opportunities and metrics for CBA is embedded within these perspectives.

There is clear scientific consensus that climate change results from anthropogenic emissions of greenhouse gases (GHG), principally carbon dioxide (CO₂), into the atmosphere. Anthropogenic CO₂ emissions result mainly from the burning of fossil fuels (87 per cent), while other contributors include deforestation and forest degradation (10 per cent), and industrial processes such as cement manufacturing (4 per cent). The contribution from developing countries is relatively low, standing at 47 per cent of total global CO₂ emissions compared to industrialised countries which produce 57 per cent of global emissions despite hosting only 20 per cent of the world's population.

In developing countries, the contribution of local communities to climate change has been widely linked to land-use changes especially in agriculture and forestry. Over 50 per cent of the population in developing countries depend on rain-fed agriculture. This population has been associated with practices such as slash and burn agriculture, deforestation, and forest degradation.³ About 400-500 million people in developing countries depend on forest products for their livelihoods and studies have indicated that these people do not only draw livelihoods from forests but also use them for coping, especially during climatically induced agricultural failures. The contributions from local communities to global climate change are not significant, as studies have shown that land use-related emissions come mainly from private agricultural commercialisation, mechanisation and large timber concessions.⁴ This underscores the dilemma and paradox whereby local communities bear the biggest brunt from the impacts of climate change despite their minimal contribution to the problem.

As such, while the contribution of local communities to climate change is very minimal, these communities feel the greatest impacts of climate change;

more so because their livelihoods are directly driven by climate variables. The impacts of climate change are vast, interlinked and widely documented. As highlighted above, these impacts are, disproportionately distributed across regions. The impacts range from imbalances in global hydrological cycles, reduced regional precipitation rates, and threats to food security, to overall deterioration of human wellbeing at the local level. Due to climate change, rainfall variability over time and space has caused a severe decline in yields of rain-fed crops, resulting in hunger among local communities. In the absence of appropriate solutions, crop yields in some African countries could fall by as much as 50 per cent by 2020, further exacerbating existing hunger and diseases among local communities.⁵ It is expected that reduced crop yields would in turn further constrain food access due to increases in prices of staples such as wheat, rice and maize.⁶ The local communities in developing countries already face a number of constraints, such as high levels of poverty, which are amplified by climate change. Conversely, the impacts of climate change are also exacerbated by these non-climatic stressors, which impede their ability to adapt to climate change.⁷

Local communities mainly respond to these impacts through adaptation actions and adaptation feedback. As initially noted, adaptation actions or practices are aimed at moderating harm or exploiting beneficial opportunities associated with climate change. Responses through adaptation can be reactive (autonomous) or planned (anticipatory) depending on the degree of spontaneity.⁸ Autonomous and reactive adaptations are practices or responses that are triggered by specific climate change impacts. In other words, actions take place in reaction to an impact which has occurred.

In contrast, when response strategies are integrated into existing institutions, norms and regulations, to anticipate climate impacts policies based on forecasting and experience, the adaptation is viewed as planned.⁹ Because most climate change impacts are exacerbated by other existing stressors, planned adaptation responses in developing countries attempt to address multiple stressors including poverty, political conflicts, and biodiversity alongside climate change.

The type of adaptation response taken by a community will influence the ability of the community to resolve the climate impact. This means that the effectiveness of both reactive and planned adaptation actions is dependent on the systems in place to initiate, facilitate and execute particular forms of adaptation. These systems have widely been viewed in terms of adaptive capacity which is defined in the glossary of the IPCC report as 'the capacity or ability of a system to adapt to climate change'.¹⁰ Planning adaptation is informed by and creates systems (e.g. institutional, socio-cultural and financial structures at the disposal of these communities) that support the ability of a community to tackle climate impacts. Scholars have thus viewed planned

adaptation an integral part of adaptive capacity.¹¹ On the contrary, reactive adaptation is often based on probability, thus may not necessarily build on the strategic strengths of existing systems. Therefore, most reactive adaptations only enable communities to cope with impacts of climate change and this mainly happens in very vulnerable systems.¹²

Responses to climate change should not only be viewed as adaptation actions but also in terms of feedback mechanisms, which facilitate the effective mainstreaming of local communities' rights as regards adaptation policies and programmes. Local communities are closer to climate impacts than any other stakeholders in the adaptation spectrum (see Chapter 4) and can generate context-specific adaptation principles and indicators for policy decisions. This kind of adaptation feedback provides a key foundation for building effective adaptation (see next section), but is often overlooked owing to lack of well documented experiences and evidence sharing among different stakeholders.

Overall, the linkage between local communities and climate change provides the basis for the emergence and development of CBA as discussed in the next section.

Community-based adaptation (CBA)

CBA emerged in the context of a strong linkage between local communities and climate change causes, impacts and response strategies. The conceptual definition of CBA is framed around the three points of interactions. CBA is a participatory, community-led and environmentally sustainable approach to addressing climate change impacts by using local knowledge, innovations and experiences to strengthen the resilience of poor and vulnerable communities.¹³ CBA recognizes that local communities constitute key 'building blocks' in efforts to tackle climate change causes, impacts and responses. This conceptualization has been tested and framed within a diversity of empirical (see Annex 2) and scientific cases following the work of non-governmental organizations such as IIED, CARE International and ACTS, among others. However, insights about what constitutes a CBA approach and how to measure it are still much debated in today's literature.¹⁴

Looking at it from the climate-people interactions perspective, three key aspects can be used to understand CBA. Firstly, CBA initiatives must focus on 'community' as the central driver and promoter of actions undertaken. This means an action can only qualify as CBA if the design, mode of dissemination and implementation are informed by community context, knowledge and interest. The question, however, remains on the extent to which communities' interests can be a part of adaptation, and what spaces exist to capture these interests for broader external knowledge and resources. This question has been tackled in various chapters e.g. Chapter 3 (Global Standards for CBA),

Chapter 4 (institutional Arrangements) and Chapter 8 (Implementation Evidence).

Secondly, actions undertaken must be related to climate change adaptation and thus support communities in adapting to the impacts of climate change. Again this implies that CBA actions must show clear linkage and attribution between an action and climate resilience. Attributing climate actions, however, still remains one of the most challenging aspects in developing countries. Climate change causes, impacts and responses occur as part of the wider social, environmental and economic context of a community; this creates the challenge of decoupling climatic from non-climatic factors, which is further pronounced by the increasing focus on mainstreaming climate change in development plans, strategies etc. Chapter 8 (CBA Implementation) provides evidence on how different forms of CBA approaches emerge and unfold within complex community systems.

Lastly, the aforementioned community-driven climate resilience actions must be environmentally, socially and economically sustainable, thus attending to the sustainable development goals. The World Commission on Environment and Development defines sustainable development as: 'development that meets the needs of the present without compromising the ability of future generations to meet their own needs'.¹⁵ Article 3.4 of the UNFCCC declares that climate change actions should aim to achieve sustainable development outcomes such as conservation, socio-economic development and poverty alleviation in developing countries.¹⁶ Therefore, outcomes of CBA actions are expected to generate positive equitable effects for both current and future generations.

Overall, the above three considerations provide some understanding of what CBA means in the context of broader adaptation spectrum. The considerations highlighted do not only define CBA but also indicate how CBA can contribute to effective adaptation in a developing country. The next section outlines some of the theoretical perspectives concerning ways in which CBA can support effective adaptation.

CBA and effective adaptation

As already highlighted, CBA approaches do not exist in isolation but are part of a broader adaptation spectrum constituting policies, programmes and strategies at global, national and local levels.¹⁷ These broader guidelines legitimise CBA practices in a given context thus helping to determine what can or cannot be implemented. As such, the design, implementation and monitoring of CBA actions ought to contribute to enhancing effectiveness of the overall adaptation agenda in a given locality, country or region.

Adaptation is effective when impacts of adaptation actions are in line with the expected desirable income i.e. sustainable development. The opposite

of effective adaptation is maladaptation, i.e. adaptation action which yields negative outcomes. Maladaptation can be explained by the fact that, in the absence of explicit policy interventions, a system/community may only be able to cope with the negative effects as reflected in the reactive (autonomous) adaptation discussed earlier.

Based on a number of experiences presented at the 9th International Conference on CBA, in April 2005, various stakeholders established that effective adaptation can be measured based on: (i) Relevance, i.e. should be relevant to national climate change and sustainable development agendas of developing countries; (ii) Innovations, where actions employ innovative approaches to tackle climate change; (iii) Efficiency, where actions are cost-effective; and (iv) Results-based, indicating positive impacts from actions and financial viability.

Based on the above four criteria, this book conceptualizes effective adaptation as a function of conceptual understanding/knowledge, institutions (relevance), implementation space (innovation in emergence and execution of actions) and financial opportunities (cost-effectiveness and financial efficiency). The book specifically analyses how CBA approaches influence these four criteria to enhance effective adaptation. The conceptual understanding of CBA has been addressed in the previous sections of this chapter so here we briefly discuss the other three criteria.

Institutions refer to formal and informal rules as well as procedures that govern the interactions between local communities and resources for adaptation. These institutions span levels of governance from local to national and global levels. Whether formal or informal, global or local, institutions are key in influencing effective adaptation because they mediate access to resources for successful adaptation. Institutions can expose restrictions/barriers and trade-offs that ought to be made between various adaptation options, thereby revealing strategic intervening points for enhancing effective adaptation. Additionally, institutions are critical in enhancing transformative actions in adaptation and particularly in transforming some CBA technologies to serve not only adaptation but also building long term adaptive capacity systems and goals. Studies have emphasized that failure in CBA to support effective adaptation in developing countries might have less to do with technical design but more to do with institutional arrangements and processes that support and defend participation, rights and equity.

Implementation of CBA and associated evidence on what works and what does not is a major requisite for effective adaptation. While there are numerous cases that demonstrate what works and what does not in developing countries, this evidence base has not been systematically consolidated to strengthen the CBA narrative. Evidence on what works or does not work and under what conditions including the challenges and opportunities, usefully

help to showcase the role of CBA in supporting effective adaptation. Such insights on the implementation processes and outcomes add to our understanding of how CBA can support the feasibility of various technologies in diverse settings and is also a source of knowledge for adaptation research and policy. CBA still evolves in many developing settings and it is only through implementation evidence that it can be strengthened to support effective adaptation.

Financing, incentivising and scaling-up proven CBA technologies is critical to the role of CBA in adaptation. Financing and incentivising CBA is critical because developing countries' settings mostly depend on ecosystem services, some of which take long to generate immediate livelihood benefits required by local communities. As such, investing in CBA to generate both long and short term benefits could usefully incentivise households to adopt CBA technologies in a sustainable manner. Ideally, the role of the private sector in this would be paramount, but the bigger question that needs to be unlocked is how to create a suitable financial framework and a business case that could tap into the private sector potential.

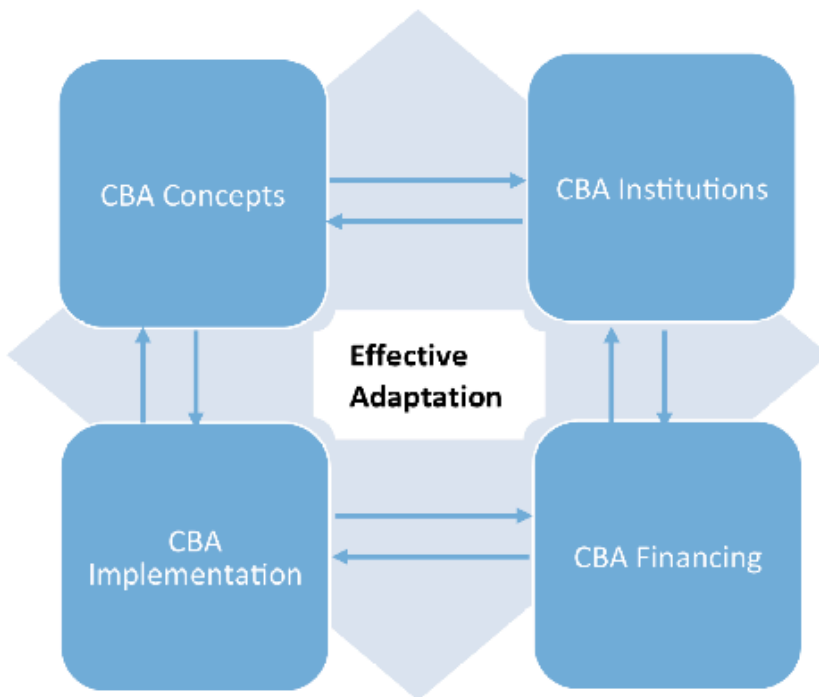


Figure 1: Conceptual Framework for the book

Organization of the book

The book consists of 13 chapters organized along the key theoretical principles underpinning effective adaptation: Theme I, under which this introduction falls, forms the conceptual basis for the book. This theme consists of two chapters which clarify what CBA means amidst many other forms of climate change adaptation. Within this theme, the conceptual framing of CBA and how it links to effective adaptation is clarified.

Theme II of the book ‘institutional context of CBA’ consists of six chapters which discuss how various rules and regulations at global, regional, national and even local level govern the design and implementation of CBA initiatives. The chapters indicate where CBA principles and approaches are located within various climate change institutional provisions, and unpack how various institutional approaches inform the design and implementation of CBA practices at the local level. Further, the theme highlights how the key institutional provisions are to be utilized to support transparent, equitable practices for CBA.

Theme III of the book ‘implementing and monitoring CBA’ consists of four chapters. The chapters provide evidence on how CBA works in various contexts, including how it is monitored and reported by relevant stakeholders. This theme synthesizes evidence on how CBA is unfolding in various developing country contexts; how various local conditions, especially livelihood assets, shape CBA; and the associated challenges and opportunities in implementing CBA in different contexts and among different social and economic groups – poor rich, women, youth, etc.

Theme IV ‘financial context of CBA’ consists of two chapters. The chapters draw from the fact that both private and public investments are critical in scaling-up adaptation through CBA approaches. While there exists a wide array of multilateral and bilateral adaptation funds, the access, utilization and devolution of these sources remain poor in most developing countries. The chapters in this theme illustrate various options for enhancing access to adaptation funding via CBA, including ways of unlocking impediments to investments, e.g. inclusive planning, gender mainstreaming, technology access and addressing social justice issues, among others.

Conclusion

This book presents an evidence base of how CBA is an important platform for devolving and enhancing climate action at the local level. Combining insights from practitioners, policy makers and researchers, this book interrogates several aspects of CBA, along four themes: concepts, institutions, implementation and financing. In sum, the chapters presented in this book indicate that CBA can support the feasibility of adaptation technologies in various developing countries because it advocates for the deployment of ad-

adaptation standards and policies based on socio-cultural and economic reality of local settings. Therefore, CBA should be an integral part of the efforts to implement the Paris Agreement in developing countries.

Notes

1. IPCC, 2001.
2. The project was supported by the International Development Research Centre (IDRC) under the Collaborative Adaptation Research Initiative in Africa and Asia (CARIAA) Programme.
3. Minang, P. A., Van Noordwijk, M., Freeman, O. E., Mbow, C., De Leeuw, J. and Catacutan, D., 2015.
4. Lawson, S., 2014.
5. World Bank, 2008.
6. IFPRI, 2010.
7. Morton, J., 2007.
8. Tompkins, E., Adger W., 2005
9. Tolman, D. L. and Brydon-Miller, M. E., 2001.
10. IPCC, 2001.
11. Tol et al., 2004.
12. Cutter et al., 2008.
13. Reid, 2007.
14. Shipper et al., 2014.
15. WCED, 1987.
16. UNFCCC, 1992.
17. Huq, S. and Reid, H., 2007.

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