

Concept Note

Strengthening local adaptive capacities:

the role of local innovation in supporting climate-change adaptation

Introduction

The clear evidence that climate change is already a reality calls for action not just to try to slow down the process by reducing the effects of human activity on the global climate (mitigation) but also to assist those affected or threatened to cope with the changes taking place (adaptation). As a result, governments and international bodies started paying increased attention to measures aimed at adaptation. In most cases, this is done by supporting externally-driven processes often dominated by high-tech, exogenous and large-scale “innovations”.

While in certain parts of the developing countries such initiatives will be needed and useful, most of the adaptation efforts will have to take place at the local level. For local people directly suffering the results of climate change, international and macro policies are meaningful (if at all) only when accompanied by local, micro-level initiatives that help them to innovate and adapt, to face the challenge posed by the changing climate. Few of the many organisations and stakeholders involved in the climate-change debate know how to do this effectively.

In agricultural development, there is growing evidence¹ of how local adaptation capacities can be supported by building on the knowledge, interest and innovativeness of local actors. Known as Participatory Innovation Development (PID), this approach shows how local people together with external actors, such as researchers and non-governmental organisations (NGOs), can be effective in accelerating innovation, if these external actors take up a facilitative (rather than a leading) role. The driving seat is then occupied by farmers, a term used in a wide sense to include pastoralists, forest dwellers, fisherfolk, etc.

How relevant would the PID approach be to support local climate-change adaptation? Can adaptation to local climate change be built on local capacities and local innovativeness? What role can NGOs, researchers and extensionists play in this process? Do farmers already try to innovate, finding new ways to cope with the challenges posed by the changing climate and – if possible – taking advantage of them? What is the wider potential of the link between local innovation and local adaptation to climate change to policymaking?

To start looking for answers to these questions, PROLINNOVA – a global learning network seeking to promote local innovation in ecologically-oriented agriculture and natural resource management (NRM) – has initiated a one-year study with funds made available by the Netherlands Directorate General for International Collaboration (DGIS). This concept note presents the main ideas behind the study, summarises the debate on climate-change adaptation and outlines the study process of the participating PROLINNOVA partners.

Changing views on climate-change adaptation

Initially, adaptation was not central to the discussions around the United Nations Framework Convention on Climate Change (UNFCCC; Schipper 2006²). A clear indication of this is that the UNFCCC does not define “adaptation”. Nevertheless, a submission during the negotiations defines it as “all purposeful and deliberate activity taken in response to or in anticipation of the adverse effects of rapid climate change”.³

¹ See, for example: Chris Reij & Ann Waters-Bayer (eds), *Farmer innovation in Africa: a source of inspiration for agricultural development*, London: Earthscan, 2001.

² Schipper, E. L. F. Conceptual history of adaptation in the UNFCCC process. *RECIEL* 15 (1), 2006. ISSN 0962 8797, p82.

³ *Ibid.*, p88, quoting Annex III, documents of the Intergovernmental Negotiating Committee for a Framework Convention on Climate Change (INC) Mechanism and Technical and Financial Support to Developing Country Parties, Synthesis report on Adaptation (Doc. No A/AC.237/68, 11 August 1994).

Throughout the 1990s, adaptation was usually taken as a given: those who will have to adapt, will adapt: “capacity to adapt was considered something inherent in ecosystems and society, therefore not requiring explicit policy.”⁴ When, in the early 2000s, it became widespread knowledge that the climatic changes we are dealing with are much beyond “normal” climatic variability that local people usually dealt with, stakeholders involved in the debate started to wonder if ecosystems and local people could really do the job alone, considering the strong intensity and high speed with which climate changes take place, or if specific efforts towards adaptation were required.

From then onwards, initiatives started sprouting at the international level, mainly at the international/national policy level, not without difficulties. Many have a research character, some focus on capacity building. “All of these initiatives are attempting to define their own approaches and methodology. In developing these frameworks, there is a clear danger that a classic top-down approach will emerge in which adaptation measures are equated with large-scale infrastructure-based interventions associated with physical protection. There will without doubt be many circumstances where large investments in infrastructure are an essential part of the adaptation process, but more focus is needed on non-structural alternatives. In particular, “bottom-up” approaches that are rooted in existing community-based patterns of resource management and that aim at sustaining and enhancing the livelihoods of vulnerable people have not been sufficiently recognised. We believe that these “grassroots” initiatives should be the point of departure for the identification and assessment of adaptation strategies, as they are cheaper, more sustainable and, in many cases, more effective in achieving the core goal of assisting poor communities to adapt to the impacts of climate change” (International Union for Conservation of Nature -IUCN, Stockholm Environment Institute – SEI, and International Institute for Sustainable Development -IISD, 2003)⁵.

Building on the recognition of the need for a bottom-up approach, some more recent programmes/projects have started to employ a more local-level strategy to climate-change adaptation. Among these initiatives, it is worth mentioning CLACC (Capacity Strengthening of Least Developed Countries for Adaptation to Climate Change) facilitated by the International Institute for Environment and Development (IIED) and ACCCA (Advancing Capacity to Support Climate Change Adaptation) coordinated by the United Nations Institute for Training and Research (UNITAR). Both focus on enhancing the capacity of organisations based in civil society who are working with the most vulnerable groups, and promoting the participation of civil society in policy development.

Building on this and other previous experiences, IIED has “championed” the concept of Community-Based Adaptation (CBA), presently also the approach advocated by international organisations such as Practical Action⁶. The concept links local adaptive capacity to climate change to local interventions, by including climate-change risks as part of the initial assessment process to define future work at community level⁷. At a recent meeting in Dhaka for discussing the CBA approach, Terry Cannon called for clear strategies and understanding of the knowledge required for addressing problems related to climate change. He suggested asking what an adaptive community would look like, what would initiate it and what resources it would require.⁸

CBA builds on the practice of starting the process of local intervention by asking people what their problems are, and what exactly they need help with. What PROLINNOVA partners hope to add to the debate (and practice!) is the concept of starting the process by looking at the more positive side of things: by recognising what mechanisms local people have already come up with, and building on that. In this way, we hope to contribute to understanding the role of enhancing local capacity as a means to deal with climate change, as the starting point for an “innovative adaptive community”.

⁴ Ibid, p88.

⁵ IUCN, SEI, IISD, Livelihoods and climate change: combining disaster risk reduction, natural resource management and climate change adaptation in a new approach to the reduction of vulnerability and poverty: a conceptual framework Paper Prepared by the Task Force on Climate Change, Vulnerable Communities and Adaptation. Winnipeg, Canada (mimeo), 2003, p10.

⁶ Practical Action is a partner of PROLINNOVA in Sudan, Nepal and Peru.

⁷ Jones, R. and Rahman, A. Community-based adaptation. *Tiempo* 64, July 2007.

⁸ IISD in collaboration with IIED, Community-Based Adaptation to Climate Change Bulletin: A Summary of the Second International Workshop on Community-Based Adaptation to Climate Change. March 2007

The role of local knowledge, practices and innovation

So far, there is very little documentation on local adaptation to extreme climate variability, concludes Pandey⁹ in her historical overview on peoples' adaptive systems to (extreme) climate variability in the past. She recommends that this knowledge gap be filled: "... in order to explore options for adaptations to abrupt climate change, several issues need to be explored with rural people. These include... Learn the spontaneous as well as planned physical adaptation strategies employed by villagers in the event of abrupt climate change. The relevance of such studies could be to create original knowledge needed to design policy and specific actions for societal adaptation to abrupt climate change." She also argues that "institutional and societal" adaptations are as important as (or more important than) biophysical ones.

When reviewing Abler et al¹⁰, Pandey points to two modelling frameworks for responses to climate change: static, in which regional capital stocks, technologies, and public and private institutions are exogenous; and dynamic, in which these variables are endogenous. Dynamic responses in capital stocks, technologies and institutions are likely to be the most important adaptations to climate change and its effects on ecosystems, but also the least well understood at the present time.

Pandey's arguments are supported by Osman-Elasha¹¹, who notes that "there are some African communities that have developed traditional adaptation strategies to cope with climate variability and extreme events. Rural farmers have been practicing coping strategies and other tactics, especially in places where droughts recur, and have developed their own ways of assessing the prospects for favourable household or village seasonal food production.... Experience with these strategies needs to be shared among communities, although it will be necessary to take into account that some of these techniques may need to be adjusted to deal with additional climate risks associated with climate change."¹²

This is not to say that local innovative capacities should be over-romanticised. The search therefore has to be for an approach that effectively combines local capacities with those from external agencies. Yet, strengthening local-level capacity to innovate may well be the key to increasing local resilience.

PROLINNOVA

PROLINNOVA is a global learning network aimed at promoting local innovation in ecologically-oriented agriculture and NRM. Its focus is on recognising the **dynamics** of local knowledge and enhancing capacities of farmers (including forest dwellers, pastoralists and fisherfolk) to adjust to change – to develop their own site-appropriate systems and institutions of resource management so as to gain food security, sustain their livelihoods and safeguard the environment. The essence of sustainability lies in the capacity to adapt.

PROLINNOVA promotes and scales up farmer-based approaches to agricultural and NRM development that start with discovering how farmers do informal experiments to develop and test new ideas for better use of natural resources. Understanding the rationale behind local innovation transforms how research and extension agents view local people. This experience stimulates interest on both sides to enter into joint action. Local ideas are further developed in a participatory process that integrates local knowledge and scientific knowledge: joint action and analysis lead to mutual learning.

PROLINNOVA functions as a network since 2003. It has grown to include more than 130 NGOs, governmental research and extension, policymakers, educational institutions and farmer organisations from 17 countries. Each Country Programme, coordinated usually by an NGO, has developed its own set of activities within the common goal of mainstreaming PID. Over the past years, the network has studied numerous cases of local innovation processes, encouraged research and development agencies to interact and support these using a PID approach and documented these experiences for use in policy dialogue and mainstreaming activities.

⁹ Pandey, N. Societal adaptation to abrupt climate change and monsoon variability: implications for sustainable livelihoods of rural communities. Winrock International–India, June 2006.

¹⁰ Abler, D., J. Shortle, A. Rose and G. Oladosu. "Characterizing regional economic impacts and responses to climate change." *Global and Planetary Change* 25 (1–2): 67–81, 2000.

¹¹ Osman-Elasha, B., Africa vulnerability. *Tiempo* 63, April 2007, p7

¹² Some of the most vulnerable regions of the globe have historically already gone through abrupt climate variations. In the Andes, for example, farmers apply traditional practices to deal with drought and low temperatures. Climate risks as such are not new. What is new is the frequency of certain phenomena and their intensity.

When some of the partners became involved in the climate-change adaptation debate, they decided to undertake an explorative study to start addressing the questions identified above. We hope this study will shed light on the factors that enable and accelerate local resilience and adaptive capacity to climate change.

The proposed study

This initial exploratory study will last throughout 2008. Most of the activities will be carried out by three Country Programmes – in Ethiopia, Nepal and Niger – selected on the basis of expressed interest of country-level partners, their current expertise and experience, and the relevance/need of work related to climate-change adaptation in the countries.

The overall objective of the study is to explore the relevance of local adaptation/innovation and the PID approach to climate-change adaptation at local level. More specifically, the study will try to:

- Systematically document local experimentation processes which come about as a response to a felt need to adapt to climate change;
- Understand local communities' perceptions of "climate change";
- Stimulate documentation of local innovation (processes) at local level;
- Draw lessons on the potential impact/influence of local innovation processes on climate-change adaptation policies and programmes.

In Ethiopia, the study is coordinated by the Pastoralist Forum Ethiopia (PFE), a local umbrella NGO which brings together local and international NGOs dealing with pastoral development issues in Ethiopia, in close collaboration with the Geography Department of Addis Ababa University. In Nepal, Local Initiatives for Biodiversity, Research and Development (LI-BIRD¹³), a local NGO, is taking the lead. In Niger, the work is coordinated by CRESA (the "Centre Régional d'Enseignement Spécialisé en Agriculture" – Regional Centre for Agricultural Education), a body of the Faculty of Agronomy of the University of Niamey, and implemented jointly with INRAN (Institut National de Recherche Agronomique du Niger – National Institute for Agronomic Research).

In addition to these three Country Programmes, partners in Bolivia (coordinated by Agrecol Andes, an NGO) are bringing in their experience and studies on local people's strategies for dealing with climatic risk, based on locally developed adaptation tools.

At the international level, the study is facilitated by ETC EcoCulture in the Netherlands.

It is important to note that, although these organisations are coordinating the study, its actual implementation is being done in close partnership with other NGOs, as well as governmental agencies and research centres, in line with the multi-stakeholder character of the PROLINNOVA programme.

While each country has designed its specific flow of activities, these all include in some form the following:

1. Literature review of national-level work on the relationship between climate change and local innovation;
2. Quick scanning of organisations involved in climate-adaptation programmes for learning from previous experiences, potential engagement in the study and/or discussing future results;
3. Actual documentation in the field, done by as many committed local organisations as possible;
4. Synthesis of findings: the major findings of the pilot studies will be organised for the debriefing. Partners will produce a synthesis document per country, including the (different) perspectives of different communities and development actors;
5. Sharing findings in a national-level workshop, to which policymakers and organisations dealing directly with climate-change adaptation will be invited;
6. Dissemination of results: outcomes will be used for training, policy advocacy and teaching.

¹³ Building on their participation in CLACC.

The way ahead

PROLINNOVA partners are embarking on yet un-sailed waters for the network. The subject is not *per se* new, but incorporating it into field activities of development organisations – and later into policy dialogue – is. There is remarkably little documentation on initiatives focusing on or strengthening local-level climate-change adaptation efforts, so we hope to be able to contribute to the debate with some grounded insights.

We are open and willing to learn from other organisations' experiences and build on them, with them. At the same time, we are looking forward to sharing our own experiences. We hope to have a final document compiling these by the end of 2008.

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