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participatory learning and action

Community-based adaptation to climate change

Participatory Learning and Action (*PLA*) – formerly *PLA Notes* and *RRA Notes* – is published twice a year. Established in 1987, it enables practitioners of participatory methodologies from around the world to share their field experiences, conceptual reflections, and methodological innovations. The series is informal and seeks to publish frank accounts, address issues of practical and immediate value, encourage innovation, and act as a 'voice from the field'.

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We welcome contributions to *PLA*. For information and guidelines, please see the inside back cover.

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Participatory Learning and Action (PLA) is an umbrella term for a wide range of approaches and methodologies, including Participatory Rural Appraisal (PRA), Rapid Rural Appraisal (RRA), Participatory Learning Methods (PALM), Participatory Action Research (PAR), Farming Systems Research (FSR), and Méthode Active de Recherche et de Planification Participative (MARP). The common theme is the full participation of people in the processes of learning about their needs and opportunities, and in the action required to address them.

In recent years, there has been a number of shifts in the scope and focus of participation: emphasis on sub-national, national and international decision-making, not just local decision-making; move from projects to policy processes and institutionalisation; greater recognition of issues of difference and power; and, emphasis on assessing the quality and understanding the impact of participation, rather than simply promoting participation. *Participatory Learning and Action* reflects these developments and recognises the importance of analysing and overcoming power differentials which work to exclude the already poor and marginalised.

Contents

Editorial

Welcome to the new look 60th issue of *Participatory Learning and Action*! The focus of this special issue is community-based adaptation to climate change. Its publication is timed to coincide with the forthcoming United Nations Climate Change Conference (COP 15) to be held in December, in Copenhagen, Denmark, and events surrounding it. The conference will bring together world leaders to try to make decisions on four key questions:

- How much are the industrialised countries willing to reduce their emissions of greenhouse gases?
- How much are major developing countries such as China and India willing to do to limit the growth of their emissions?
- How is the help needed by developing countries to engage in reducing their emissions and adapting to the impacts of climate change going to be financed?
- How is that money going to be managed?[1]

Reducing emissions of greenhouse gases is crucial to limiting the extent of future climate change. However, there is also recognition that human-induced climate change is already happening, and those most affected will be the estimated one billion people living in developing countries who are already poor and marginalised.[2] Since the industrialised countries are responsible for most past greenhouse gas emissions, they have accepted that they should help those who will be most affected by climate change to adapt to its impacts (UN Framework Convention on Climate Change).

It is now increasingly recognised that, for poor communities, adaptation approaches that are rooted in local knowledge and coping strategies, and in which communities are empowered to take their own decisions, are likely to be far more successful than top-down initiatives. In addition, communities have the right to participate in decisions that affect them.

[1] Source: http://en.cop15.dk
[2] Jessica Ayers and Saleem Huq, *Community-based adaptation to climate change: an update*. IIED briefing, June 2009.

For these reasons, community-based adaptation has come to the fore in recent years.

'Good' community-based adaptation, like other forms of participatory development, is community-driven, empowering, and strengthens local capacity. Much CBA is rooted in disaster risk reduction approaches, designed to build the resilience of communities to disasters, such as floods and drought, with the difference that it should also incorporate longer-term climate change and its predicted impacts into community-based planning. Broader participatory community development and livelihood approaches should also be taking into account the effects of climate change, if development gains are to be sustained.

Communities have a wealth of knowledge about the local environment, and have been adapting to and coping with change for years. Although this knowledge and traditional coping mechanisms may become less effective as climate change leads to greater unpredictability in weather patterns (e.g. rain coming at any time rather than at predictable times) and more extreme events (e.g. droughts and floods) it remains an invaluable resource, and, in the absence of historical written records, is often the only source of information on e.g. rainfall trends. This is not to say that scientific knowledge does not have a very significant role to play in helping communities to adapt to climate change, and many of the articles in this issue reflect on the respective strengths and weaknesses of local and scientific knowledge, and how the two can best be integrated.

Community-based adaptation brings together those working in the fields of disaster risk reduction, community development, and climate change science. There is still much work to be done to encourage these different communities to develop a common language, to share good practice, and to draw on the lessons of other participatory development work, in particular, the dangers of rushing to scale at the expense of the quality of participation, as happened with PRA in the 1990s. The overview for this issue reflects on different types of participation, and on what is meant by 'good', empowering participation.

Structure of the special issue

The special issue is divided into three sections:

- The first section includes **reflections on participatory processes and practice in community-based adaptation to climate change**. These have a variety of entry points, including participatory vulnerability analysis, disaster risk reduction frameworks, and Farmer Field Schools. The case studies provide a rich source of experience and lessons for CBA practitioners.
- The second section focuses on **participatory tool-based case studies**. These describe a participatory process with an emphasis on the use of a particular participatory tool, such as participatory video or participatory mapping. They also reflect on the strengths and limitations of these tools.
- The third section, **participatory tools**, includes shorter, step-by-step descriptions of how to facilitate a particular tool in a community, for example, rain calendars and mental models of the drivers and effects of climate change.

Guest editors

The guest editors for this issue are Hannah Reid, Terry Cannon, Rachel Berger, Mozaharul Alam, and Angela Milligan.

Hannah Reid is a Senior Researcher in the Climate Change Group at IIED. She is interested in the links between climate change and sustainable development and is a lead editor for *Tiempo: a bulletin on climate and development*.

Terry Cannon works with the Climate Change Group as a Visiting Fellow at IIED. Until recently he was Reader in Development Studies at University of Greenwich. His special interest is in community-based vulnerability assessment and disaster reduction, and climate change adaptation in relation to rural livelihoods. He is

Flyer for the 3rd international conference on community-based adaptation to climate change.

currently working on projects for this in Bangladesh and Vietnam.

Rachel Berger is currently climate change policy adviser with Practical Action, a development NGO that focuses on reducing poverty through enabling poor people to access and develop technologies appropriate to their needs and resources. Before her current role, Rachel managed multi-country projects in sub-Saharan Africa and south Asia focusing on strengthening livelihoods in the face of increasing climate variability, and empowering communities to address their problems. She currently works on advocacy and policy on adaptation to climate change in the international UN climate change negotiations, as well as supporting Practical Action's country offices on climate change policy and programme work.

Mozaharul Alam has recently joined UNEP as Regional Climate Change Coordinator for Asia and the Pacific Region, located in Bangkok. Before joining UNEP, he coordinated the climate change programme of the Bangladesh Centre for Advanced Studies (BCAS). He has conducted and coordinated significant amounts of research on climate change impacts, vulnerability, and adaptation at national, regional, and international levels. He has also designed and implemented a community-based adaptation project in Bangladesh and provided technical inputs on CBA projects in African Countries.

Angela Milligan is Co-Editor of *Participatory Learning and Action*. She worked with poor farming communities in Kenya, Tanzania, and Uganda in the early 1990s, an exciting time when the use of participatory approaches was expanding rapidly, and the rate of innovation was extremely high. She was an avid reader of those early issues of *PLA* (then *RRA Notes*)! After returning to the UK, Angela worked as a tutor and course writer for the Wye College, University of London distance learning courses in Agricultural Development. After a stint communicating the research findings of DfID's natural resources research programmes, she joined IIED in 2001 as Editor of *Participatory Learning and Action*, and has been here ever since! Getting to grips with the discourse of disaster risk management and climate change adaptation has been a steep learning curve, but guest editing this issue has been a great learning experience, and has highlighted the importance and challenges of CBA work.

How this issue came about

The idea for this issue arose from the involvement of the International Institute

for Environment and Development (IIED)'s climate change programme in the First International Community-based Adaptation (CBA) conference, held in Dhaka, Bangladesh in 2005. More then 80 experts, policy makers, NGO representatives, and grassroots practitioners discussed the possible impacts of climate change on communities, and how to help them adapt in the future. Whilst the first conference focused on firming up the concept of CBA and gaining acceptance for it, a second and third conference (in 2007 and 2009) considered issues such as the distinction between CBA and community-based development, scaling up CBA, and how to integrate climate science into CBA whilst maintaining a community-driven process.[3] A fourth conference will be held in Tanzania in February 2010 (see In Touch, page 199 for more details).

An invitation to submit papers for this special issue of *Participatory Learning and Action* was circulated to *PLA* and climate change networks prior to the third CBA conference, and abstracts were then selected by the guest editors for development into full papers. These were supplemented by directly commissioned papers, drawing on the guest editors' suggestions and those of staff at the Institute of Development Studies, Sussex, in particular Robert Chambers.

Acknowledgements

We would like to thank the guest editors for their hard work and dedication to this issue, despite many other demands on their time, as well as all who submitted articles. We would also like to thank Robert Chambers for pointing us towards innovative work on CBA, particularly the development of new participatory tools. Thanks also to our editorial board for their insightful comments on the papers for this issue. Finally, huge thanks to our authors who had to contend with sometimes contradictory feedback from climate change 'experts' and participation 'experts', and who dealt with our requests for changes with patience and good humour.

The rest of the issue

Tips for Trainers

For this issue we have two Tips for Trainers articles. First, **Sonal Zaveri** presents Communication Maps, a participatory tool to understand communication patterns and relationships. Developed in Nepal, the tool provides a simple and effective way to plot and understand how children communicate with the people in their lives.

Next, **Ziad Moussa** provides some tips on using a tool called Rivers of Life, which allows participants to reflect on personal experiences and influences that have motivated them in their personal and professional life. Participants are invited to use the symbol of a river to reflect on key stages in their lives, positive experiences and influences, and difficult challenges. This is a fun way to introduce people to each other in a workshop setting and was used at the RCPLA workshop in Cairo last year. See the RCPLA pages for an update on the programme *Deepening Participation for Social Change* that was initiated at the workshop.

In Touch

The In Touch section of this issue is divided into two sections. The first section contains a variety of books, papers, and web-based resources on climate change adaptation, including sources of climate data, case studies of CBA, and CBA methodologies. The second section includes resources on other participatory themes.

RCPLA

Find out the latest news from partners and colleagues from the Resource Centres for Participatory Learning and Action Network.

[3] Ayers and Huq, *ibid.*

PLA 59: DVD

Together with the Technical Centre for Agricultural and Rural Cooperation (CTA), we are working on a bilingual DVD which contains English and French versions of the articles in *PLA* 59: *Change at Hand: Web 2.0 for development*, as well as video documentaries, and a Tips for Trainers in Spanish. This will be available in January 2010. *PLA* 59 has been extremely well-received (see under *PLA* online below), and we hope that the bilingual DVD will enable you to share the issue more widely with partners and colleagues.

Other news

Change of format

You have probably noticed that this issue of *PLA* looks rather different from previous issues! We have been considering a change of format for some time now as feedback from readers suggested they would prefer a smaller, more portable size. The new size should also mean that issues of *PLA* sit easily on a shelf, without flopping over as the larger size does! A further consideration, in these times of financial crisis, is that the format is a standard size, and so is considerably cheaper to print.

Whilst the look is a little different, we still aim to be an informal journal, with plenty of photographs and illustrations. All our articles are peer-reviewed by members of our International Editorial Advisory Board, helping us to maintain the very high quality of the content, while also keeping a focus on practitioner-based experiences.

We would very much welcome your feedback on the changed format. Does it work better for you? Are there any other changes you could like to see? Email us at pla.notes@iied.org with your views.

PLA online

We had a record number of downloads of *PLA* 59 on Web 2.0 for development, and have had an amazing amount of positive feedback on the issue. There is so little about participatory Web 2.0 that this is clearly meeting a need, and we hope that the issue has encouraged many of you to dip a toe in the world of Web 2.0.

Don't forget that you can also access and download most issues of *PLA* free online. Visit www.planotes.org for more information.

Next issue

In a change to our publicised schedule, our next issue, *PLA* 61, will be published in June 2010 rather than December 2009, and the issue will be a special theme one on community-led total sanitation (see below).

PLA 61: *Community-led total sanitation*, June 2010

This issue is being produced in partnership with Plan International and will be guest edited by Sammy Musyoki from Plan International and Petra Bongartz from the Institute of Development Studies, UK.

In recent years, sanitation has received renewed attention internationally and has been acknowledged as one of the central components of development because of its interconnections with health, livelihoods, education, the environment, and other sectors. Its close ties with poverty reduction are being increasingly recognised.

The WHO and UNICEF reports suggest that as many as one in three people worldwide lack sanitation facilities. Most of those affected live in low-income countries in Asia and Africa. Poor sanitation, lack of access to clean water, and inadequate personal hygiene are responsible for an estimated 90% of incidences of childhood diarrhoea (WHO). It is estimated that diarrhoeal diseases kill at least two million children in poor countries each year, and diarrhoea is the second highest single cause of child mortality (WHO).

Despite the efforts and resources that have been poured into sanitation in the last decade, the millennium development goal (MDG) for sanitation ('halving by 2015, the

proportion of people without sustainable access to safe drinking water and basic sanitation') is a distant dream for many developing countries. Providing subsidies to build toilets has not been enough and creates a culture of dependency on external help.

In contrast, Community-Led Total Sanitation (CLTS) focuses on mobilisation of collective action and behaviour change to ensure real and sustainable improvements in sanitation and hygiene. CLTS has its origins in Participatory Rural Appraisal (PRA), drawing on simple PRA visual tools such as mapping, transect walks, and flow diagrams to enable communities to analyse and learn from their hygiene habits and practices, and come up with collective action plans for sanitising their habitat without depending on external subsidies.

This issue will focus on recent CLTS experiences in Africa, enabling sharing of experience and lessons, and improving practice and policy around CLTS. Practitioners will come together to share and reflect critically on the questions, issues, and challenges that CLTS practice throws up, and develop articles for the issue. This promises to be a fascinating and timely issue, which will be of interest to practitioners in Africa as well as other regions.

Editorial board news

We would like to say farewell to two IIED members of our Strategic Editorial Board.

Ivan Bond left IIED in September to join the UK Department for International Development. He will be working primarily on REDD (reducing emissions from deforestation and degradation), but will maintain close contact with IIED. Ivan took a leading role in the development of *PLA 55* on Community conservation in southern Africa, and he will continue to be a member of the wider *PLA* advisory editorial board. We wish Ivan well in his new position, and look forward to receiving his continued input on the development and content of *PLA*.

Sonja Vermeulen left IIED in November this year to pursue other interests. Sonja has been a very valuable critical friend during her time on the PLA Strategic Editorial Board. She also guest edited *PLA 53, Tools for influencing power and policy*. This issue was developed around the Power tools project, which provides 'how-to' ideas that marginalised people and their allies can use to have a greater positive influence on natural resources policy.[4] We would like to extend our warm thanks to Sonja for all of her good-humoured support over the years, and look forward to keeping in touch in future.

Final thoughts…

The decisions that will be made at in Copenhagen in December 2009 will have far-reaching repercussions for people the world over for years to come. As we move forward, good participatory practice will play an essential role in community-based adaptation. We hope that this issue will encourage readers to take into account climate change impacts, both present and future, in their development or relief work with communities, in participatory research, and in policy-making. We hope also that this special issue will promote the spread of good practice, and the sharing of experiences and lessons, so that we can all help to meet the global challenge of climate change.

[4] See www.policy-powertools.org

THEME SECTION

Community-based adaptation to climate change

Community-based adaptation to climate change: an overview

1

by HANNAH REID, MOZAHARUL ALAM, RACHEL BERGER, TERRY CANNON, SALEEMUL HUQ, and ANGELA MILLIGAN

Introduction

Scientists are clear that climate change is happening, and that it is due to emissions of greenhouse gases produced largely by industrialised countries (IPCC, 2007). Those likely to be worst affected are the world's poorest countries, especially poor and marginalised communities within these countries. Ironically it is these poor countries and people who have contributed least to the problem of climate change, because of their very low greenhouse gas emissions, but who will suffer most from its consequences. Even if emissions are severely curbed, climate change will still occur. The industrialised countries have accepted they have a responsibility to help poor and vulnerable countries to adapt (UNFCCC). However, until recently, most adaptation efforts have been top-down, and little attention has been paid to communities' experiences of climate change and their efforts to cope with their changing environments.

This special issue of *Participatory Learning and Action* focuses on recent approaches to adaptation to climate change which are community-based and participatory, building on the priorities, knowledge, and capacities of local people. Community-based adaptation draws on participatory approaches and methods developed in both disaster risk reduction (DRR) and community development work, as well as sectoral-specific approaches such as farmer participatory research (Berger *et al*., this issue) and Farmer Field Schools (Sherwood and Bentley, this issue). Innovative participatory methods are also emerging to help communities analyse the causes and effects of climate change, to integrate scientific and community knowledge of climate change, and to plan adaptation measures.

In this overview paper to the issue, we describe how community-based approaches to climate change have emerged, and the similarities and differences between CBA and other participatory development and disaster risk reduction approaches. Whilst CBA is a relatively new field, some lessons and challenges are

beginning to emerge, and we analyse these, drawing on the experiences contained in the collection of articles for this issue. Many of the articles are concerned with natural resources, reflecting the preponderance of submissions we received in this area. However, climate change will affect many other aspects of communities' lives, and we would urge practitioners working in other sectors, such as human health and urban areas, to share their experiences of community-based adaptation.

Climate change and its impacts

Climate change refers to short-, medium-, and long-term changes in weather patterns and temperature that are predicted to happen, or are already happening as a result of anthropogenic emissions of greenhouse gases such as carbon dioxide. These changes include a higher frequency of extreme weather events such as drought and floods, as well as greater unpredictability and variability in the seasons and in rainfall. Overlying this increased variability are expected longer-term changes, such as temperature and sea-level rises, and lower (or in some cases higher) rainfall. Annex 1 shows in more detail how the climate is predicted to change over the medium- and long-term (Christian Aid, 2009, based on the IPCC 4th assessment report, 2007).

Why are poor people most vulnerable to climate change?

Poor countries and communities are more vulnerable to climate change because they tend to be located in geographically vulnerable areas, such as flood-prone Mozambique, drought-prone Sudan, or cyclone-prone Bangladesh, and in more vulnerable locations. For example, the slums and informal settlements surrounding many developing country cities are usually sited on land prone to landslips or to flooding and river bank erosion. Wealthy people, commerce, and industry can afford to situate themselves on safer land.

Many poor communities are heavily dependent on natural resources for their livelihoods. Smallholder farmers have much experience of adapting to their complex, diverse, and risk-prone environments. However, farming is now becoming even more difficult and risky because of greater unpredictability in the timing of rainy seasons and the pattern of rain within seasons, making it more difficult to decide when to cultivate, sow, and harvest, and needing more resources to seize the right time for planting, and to maintain crops and animals through dry spells. Heat stress, lack of water at crucial times, and pests and diseases are serious problems that climate change appears to be exacerbating. These all interact with ongoing pressures on land, soils, and water resources that would exist regardless of climate change (Jennings and McGrath, 2009).

Vulnerability to climate change is not just a function of geography, or dependence on natural resources; it also has social, economic, and political dimensions which influence how climate change affects different groups (Action Aid, 2005). Poor people rarely have insurance to cover loss of property due to storms or cyclones. They cannot pay for the healthcare required when climate change-induced outbreaks of malaria and other diseases occur. They have few alterative livelihood options when their only cow drowns in a flood or drought kills their maize crop for the year – and they do not have the political clout to ask why their country's early warning system did not warn them of likely flooding. Climate change will also have psychological and cultural effects, for example beliefs and traditions associated with the seasons being undermined by climate change (Jenning and McCrath, 2009).

Poor communities already struggle to cope with the existing challenges of poverty and climate shocks, but climate change could push many beyond their ability to cope or even survive. It is vital that these communities are helped to adapt.

Adapting to climate change

International climate change negotiations, multilateral and bilateral agencies, donors, and international governance and financial institutions such as the World Bank are paying increasing attention to adaptation and how best to help people to adapt. More and more funding is available for adaptation.[1] However, until recently, most efforts to help countries adapt focused on national planning and top-down approaches based on climate change modelling. Remarkably little attention has been paid to the ways in which poor people have been coping with climate variability and extremes for decades.

What is community-based adaptation?

Community-based adaptation to climate change is a community-led process, based on communities' priorities, needs, knowledge, and capacities, which should empower people to plan for and cope with the impacts of climate change. As Tanner *et al*. and others in this issue point out, climate change is only one of a range of natural, social, and economic problems that may face poor people (such as unemployment, the prices of food and other essentials, commodity prices, drugs, gambling, community conflict, and health). So it is unlikely that interventions focusing only on climate-related risks will reflect community priorities.

CBA needs to start with communities' expressed needs and perceptions, and to have poverty reduction and livelihood benefits, as well as reducing vulnerability to climate change and disasters. In practice, CBA projects look very like 'development as usual' and it is difficult to distinguish the additional 'adaptation components'. For example, in a drought year, we cannot divide water storage measures undertaken by local communities into those initiated as a response to 'normal' climate variability, and those initiated as a response to climate change. However, the difference is that CBA work attempts to factor in the potential impact of climate change on livelihoods and vulnerability to disasters by using local and scientific knowledge of climate change and its likely effects.

CBA may start by identifying communities in poor countries that are most vulnerable to climate change, or these communities may themselves ask for assistance (Kelman *et al*., this issue). It may also follow on from work with communities to cope with a disaster, such as severe flooding. International development NGOs and donors funding CBA usually work through local partners, such as local NGOs or community groups which already have the trust of local communities.

Incorporating climate change information

CBA work needs to incorporate information on climate change and its impacts into planning processes. This includes:

- scientific information (e.g. long-term predictions from climate change models, seasonal forecasts, information on trends based on data collected at nearby weather stations); as well as
- local knowledge about trends and changes experienced by communities at a local level and strategies these communities have used in the past to cope with similar shocks or gradual climatic changes.

Both these sources contribute to an understanding of risk. Climate change science cannot say for certain, for example, how much rainfall a particular area will receive over any given time – but it can give some guidance on the probability that rainfall will increase or decrease and to what

[1] For example, funds have been established to support adaptation activities under the United Nations Framework Convention on Climate Change (UNFCCC) and its Kyoto Protocol such as the Adaptation Fund, and the World Bank's Pilot Program for Climate Resilience (PPCR). While such international funds are not always aimed specifically at community-based adaptation (CBA), some of them, such as the Adaptation Fund, are trying to target the most vulnerable communities.

Photo: Terry Cannon

Moveable cooking stove designed to cope with floods, 2007, near Khulna, Bangladesh.

extent. CBA builds in this notion of risk and uncertainty into activities, with the aim of building communities' resilience to both current climate variability and future climate change.

Drawing on participatory disaster risk reduction approaches

The lessons from disaster risk reduction (DRR) work are of tremendous value for climate change adaptation, because climate change is likely to change the magnitude, frequency, and timing of extreme events such as flooding, landslides, and storms, as well as generate new disaster events.

Disaster risk reduction is likely to be the entry point for communities suffering from severe shocks as a result of short-term climate variability (Christian Aid, 2009). Many of the papers in this issue use a participatory DRR framework (e.g. Tanner *et al.*, Warrick, and Gaillard and Maceda). Although different approaches and frameworks for participatory DRR exist, all involve working with local people to understand the types of hazards they face (e.g. earthquakes, droughts, floods, pests and diseases, human diseases), the factors which make them vulnerable to these hazards, and their causes. These together give an indication of how 'at risk' communities are and which groups are most vulnerable. They also help communities consider what capacities they have for reducing vulnerability, and aim to empower communities to take action themselves to reduce the risks they face.

Many organisations working with local communities to reduce poverty and disaster risks are now trying to incorporate the effects of climate change into their work with communities. Kelman and Mercer (this issue), for example, describe a disaster risk reduction framework developed with communities to facilitate DRR planning in small island developing states (SIDS), such as Papua New Guinea. They then show how the framework can be adapted to take into account the likely effects of climate change by drawing on external scientific information such as downscaled climate projections and satellite images, as well as local knowledge of hazards and vulnerabilities. Taking into account these longer-term impacts is one of the key differences between DRR and climate change adaptation.

Livelihoods, DRR, and climate change

In practice, all disaster risk reduction and development work should take into account climate change impacts if development gains are to be sustained in the future. Whilst development agencies may differentiate between DRR, climate change adaptation, and poverty alleviation, at the household level the issues converge into one complex interrelated problem which boils down to the same thing – the security and wellbeing of people's lives, livelihoods, and assets (Oxley, 2009).[2] There is increasing recognition that, for many communities facing frequent hazards, poverty, disasters, and climate change adaptation are closely linked and cannot be viewed in isolation from one another.[3]

This points towards the need to find practical ways of integrating DRR, livelihoods, and climate change adaptation. Christian Aid, for example, has developed a climate risk cycle management approach to development planning which builds on the expertise and experience of existing DRR and livelihoods programmes, using existing tools wherever possible. In the model, predictable risks are anticipated, long- and short-term risk reduction activities are integrated into livelihood development, and the time spent in emergency or rehabilitation is minimised (Figure 1).

[2] ESRC-funded seminar, Integrating Approaches: Sustainable Livelihoods, Disaster Risk Reduction and Climate Change Adaptation, December 2009, organised by Practical Action (www.practicalaction.org.uk). See: http://community.eldis.org/.59cc7287/
[3] Ibid.

Figure 1: Climate risk cycle management

Source: Christian Aid (2009a)

These integrated frameworks are still largely untested and there are likely to be challenges in handling the array of factors to be considered, as well as in encouraging the different support institutions needed to tackle vulnerability to work together.

Participatory methods for CBA

Many of the participatory tools used in CBA (see Table 1 for some examples) will be familiar to DRR and development practitioners, but other innovative approaches are being developed for communities, development workers, and scientists to co-learn about climate change and adaptation, as well as for working with particular groups such as children (Tanner *et al*., this issue).

Co-learning about climate change

Whilst local people are extremely aware of changes in their environment, they often have little knowledge of the global causes and effects of climate change. The papers in this issue describe a wide variety of participatory tools to help communities understand climate change and the impacts it may have. Many use co-learning approaches, drawing on both local and external scientific knowledge. Communication about climate change should be in the first language of the community approached and in terms it can understand.

In Ghana, for example, communities developed mental models showing drivers

Table 1: Some examples of participatory tools used in CBA	
PARTICIPATORY TOOL/APPROACH	**USES**
Mental models	• Drivers and effects of climate change
Seasonal calendars	• Seasonality and links with livelihoods • Can be combined with timelines to show perceived changes in seasonality over time
Timelines	• Hazards and events • Trends in climate, e.g. temperature and rainfall
Community mapping and modelling	• Resources • Types and causes of risks and threats • Extent of vulnerable areas • Vulnerable households and individuals • Planning DRR/CC adaptation measures
Transect walks	• Vulnerability/risks • Land use • Resources
Ranking	• Vulnerabilities and hazards • Coping and DRR strategies, e.g. water management options, crop varieties
Dream maps and drawings	• Vision of community or farm and how to achieve
Theatre, poems, songs	• Awareness raising of risks and risk reduction measures • Advocacy
Participatory video	• Awareness raising • Farmer to farmer communication • Advocacy
Stakeholder analysis	• Institutions, relationships, power
Key informant discussions (e.g. *storian*)[4]	• In-depth discussion of vulnerability, livelihood sources

and effects of climate change (Tschakert and Sagoe, this issue). During this process, they reinforced and expanded their own knowledge of climate change, with the input of external agents. In Indonesia, Climate Field Schools followed a participatory 'learning by doing' approach to help farmers increase their knowledge of climate change and observe climatic parameters themselves, such as rainfall, to help guide farming activities (Christian Aid, this issue). Sherwood and Bentley (this issue) describe a similar process in the Andes.

Children can be very effective communicators of climate change causes and effects. They often have a better understanding of the science of climate change processes than adults in the community, through school lessons, and can draw out the implications for local livelihoods. Plush (this issue) shows how videos, produced in

[4] *Storian* means to 'chat, yarn, swap stories' and is an umbrella term indicating semi-structured interview, informal interview, and opportunistic discussion as part of observation. See Warrick, this issue.

a participatory way by children, can be a powerful means of raising awareness of climate change and its impacts, especially where literacy rates in the community are low. In this case, the children were first taught about climate change using locally available materials (although Plush notes that there is a severe lack of material that is not too technical, or related to the urban mitigation context). They then used this knowledge to develop questions and carry out filmed interviews with other community members, to give a clear picture of the impacts of climate change at the local level.

Although it is important for communities to understand the drivers and processes of climate change, Warrick (this issue) warns of the dangers of disempowering communities, giving them a sense that they cannot take action to deal with climate change, even though they have often been dealing with highly variable climates for many years. To avoid this, she suggests discussing climate change in the context of how people have already responded to climate stress, how this has changed over time, and on communities' own capacities to adapt.

Local knowledge about climate change

Several papers in this issue look at ways in which familiar participatory tools can be adapted to document local knowledge about climate changes. For example, rain calendars were used in Malawi to analyse changes in rainfall over the past five years (Awuor and Hammill, this issue) whilst seasonal analysis charts showed changes in the seasons in West Bengal, India over a similar timescale (Christian Aid, this issue). Climate timelines in Sudan were used to record extreme weather events and temperature trends over the past 30 years (Christian Aid, this issue).

In the absence of historical local weather data, the memories of older community members are often the only source of information on climate trends (Berger *et al.*, this issue). Where scientific data are unlikely to be available, one way forward may be to strengthen local people's ability to collect their own data (Sherwood and Bentley, this issue).

Using scientific climate change data

The science of climate change and predictions regarding future changes have a key role to play in adapting to climate change. Finding ways of making scientific data accessible to communities is crucial if they are to adapt and remain in control of the CBA process. There are potentially many different kinds of information that would be useful for community planning, such as remote sensing observations, satellite pictures, downscaled climate scenarios, and seasonal and long-range weather forecasts. Where these are available, communities need to learn how to interpret them. Christian Aid (this issue), for example, describe how participatory climate forecast workshops were held in Zimbabwe, in which forecasts for the coming season, expressed in terms of probabilities rather than firm predictions. were explained to farmers, and then downscaled using farmers' own historical rainfall data.

Integrating local and scientific knowledge

Many of the papers in this issue consider how to integrate scientific and local knowledge so as to build on the strengths of each. Although this can present challenges (see later), several papers suggest ways of bridging the gap between local communities and scientists (e.g. Gaillard and Maceda).

Identifying and planning adaptation activities

Participatory ways of documenting, prioritising, and sharing risk reduction and adaptation approaches are important if CBA is to fit with community priorities, and build on existing practices or those used in the past, for example traditional rice varieties which have better salinity tolerance than more recent varieties (Berger *et al.*, this issue). Commonly

Photo: Terry Cannon

Children take a class on the environment, 2007, near Khulna, Bangladesh.

mentioned on-farm adaptation options include diversification of the crops grown, changes in farming practices, better water management, and food storage. In extreme cases, for example, where droughts are likely to be of such magnitude that crops can no longer survive, then alternative livelihood strategies, or even migration may need to be explored.

There is much scope for approaches which encourage the sharing of adaptation practices. Sherwood and Bentley (this issue), for example, describe an approach to climate change adaptation in the Andes, in which farmers learn through visits to other farms and through experimentation. As farmers learn and take action at the farm level, the focus shifts to collective actions, such as sharing responsibility for collecting weather data, and implementing soil and water conservation measures.

Baumhardt (this issue) describes how farmers made videos of the adaptation activities they found most useful, which were then screened in nearby villages with which they did not have contact. Whilst the videos were an important communication tool for raising awareness of adaptation options, there are likely to be differences in abilities to adopt adaptation measures, and additional support will often be needed if local people are to make these changes.

Molina *et al.* (this issue) describe how children in the Philippines developed theatres, songs, and dances to communicate the potentially destructive impacts of hazards such as flooding and river bank erosion, and were effective advocates for risk reduction activities, such as tree planting.

Gaillard and Maceda (this issue) describe how communities in a flood-prone part of the Philippines created extraordinarily detailed, scaled three-dimensional

Photo: Fernanda Baumhardt

Mphunga villagers filmmaking training. Mphunga village, Salima district, Malawi – July 21st 2008. See Baumhardt *et al.*, this issue.

Photo: Grace Molina

Children mixing cement for school retaining wall, Potrerillos, El Salvador. See Molina *et al.*, this issue.

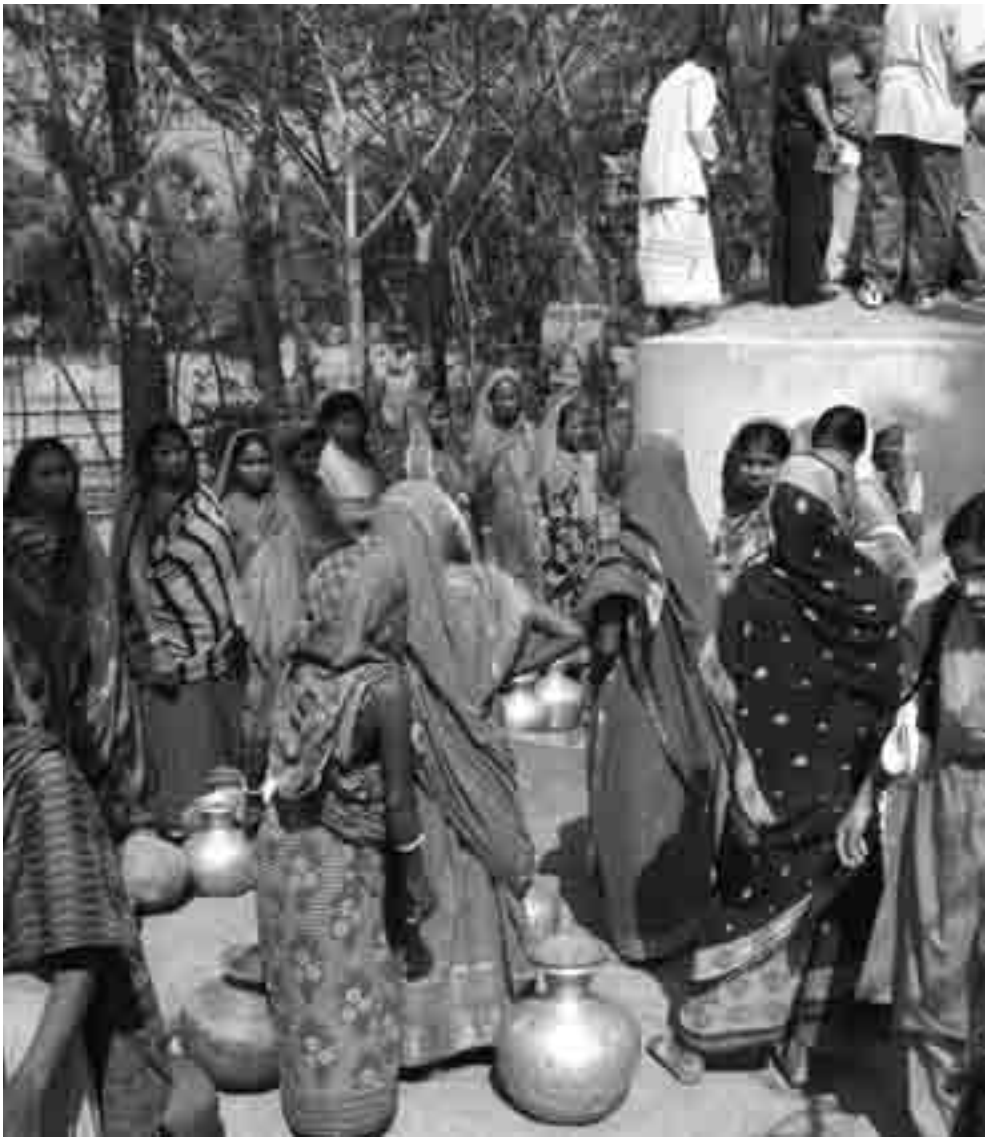

Photo: Terry Cannon

Women queue for drinking water from a filtered tank in area where salinisation is increasing due to sea-level rise.

models of their area, made from local materials such as cartons and paper, which they used for disaster risk reduction planning. They used the models to identify important areas for livelihoods, e.g. fishing and hunting grounds, areas prone to different types of flooding (river, tidal), different households, the material of their house (which affects how robust the houses are), household inhabitants, and the most vulnerable people in the community, e.g. young children, elderly people, pregnant women, and those with disabilities. They then identified local resources to deal with hazards, e.g. boats, vehicles, and then planned disaster risk reduction activities, e.g. meeting points, evacuation routes, and shelters. The information from these models can also be input into GIS systems for use by local government or scientists (subject to the communities' permission), and can easily be updated.

Lessons and challenges in community-based adaptation

Although CBA is a very recent development, a number of lessons and challenges are already emerging, around the availability and credibility of climate change information and data, the quality of participatory processes in CBA, scaling up, and monitoring and evaluation.

Issues around knowledge

Good information on which to base climate change adaptation is vital, but it is not always available, accessible, or credible.

Scientific data

Christian Aid (this issue) highlight the difficulties communities often experience in accessing climate change data that they can use in planning. Whilst climate models can help identify which parts of the world are more likely to be physically vulnerable (see Annex 1), these predictions are often at a geographic resolution or timescale which are of little use to local communities. Better climate change models, which can make predictions that are more relevant for communities, are urgently needed.

There are also problems with weather forecasts. Meteorological stations are often woefully under-resourced and understaffed, data are not computerised, and data which would be useful for farmers are not collected. Jennings and McGrath (2009), for example, point out that the vast majority of analyses of meteorological records and climate model data focus on mean annual temperature and precipitation change rather than the timing of rains and intra-seasonal rainfall patterns, which are of much more interest to farmers.

Where data are available, communities are often not able to access them, for example, because they lack Internet access, or the data are not passed from meteorological departments to other government departments which can make use of them, such as agriculture. Finally, communities often have little confidence in the data. Access to reliable, appropriate forecasts is essential in meeting the challenge of greater unpredictability and increased hazard events, and meteorological departments need to be strengthened to meet this need. Ideally, scientific data should be verified against local data, so that the scientific information has credibility with users (Christian Aid, this issue).

Local knowledge

Whilst communities often have little confidence in the reliability of information from scientists, scientists are often equally reluctant to trust local knowledge, which they regard as subjective and lacking in rigour (Gaillard and Maceda, this issue). However, in the absence of weather records and climate change data, CBA may be largely dependent on local knowledge of past climate trends for forecasting future trends.

Gill (1991) compared rainfall patterns recorded by Nepali farmers using rainfall calendars with the 'real' data recorded at the nearby weather station, and found a remarkably good fit when comparing modal rainfall. A more recent study was able to match farmer perceptions of changing timing and character of seasons against meteorological records and get a fit good enough to show that farmer analysis needs to be taken seriously (McGrath, pers. comm.). However, several authors (e.g. Warrick) note that, when analysing longer-term trends with communities, more recent events tend to overshadow more distant ones, and this needs to be taken into account when trying to extrapolate from past trends.

Many communities use traditional systems to forecast the coming season. Sherwood and Bentley (this issue) describe how farmers use wind patterns, cloud formations, the position of rainbows, and animal behaviour to predict the coming season. Berger *et al.* (this issue) describes a traditional weather forecasting system called *Litha*, based on lunar cycles, and

used by communities in southern coastal in Sri Lanka to predict rainfall patterns, and the best time to plant crops. However, there are fears that these traditional systems will become less effective as climate change impacts increase. Berger *et al.* observe that in recent years, the *Litha* system has been falling out of use, although whether this is because it is less effective or because scientific weather forecasts are more reliable is unclear, and this would merit further investigation.

Issues around participation

CBA activities demonstrate a variety of types and degrees of participation (see Table 1 for one typology). Participatory tools are sometimes used as a way of collecting local information about vulnerability and climate change to be used and analysed by outsiders (e.g. the case described by Wong, this issue). Often the priorities and interests of outsiders override those of communities, and there is still a lot of 'doing to' communities, rather than communities taking charge. Experience from many different fields, including those relevant to climate change adaptation, such as natural resource management and soil and water conservation, shows that if adaptation is to be effective and sustainable, it must draw on the knowledge and priorities of local people, build on their capacities, and empower them to make changes themselves. In this overview, we have argued that communities, scientists, and development workers need to learn, analyse, and plan action in partnership, but that communities need to be in the driving seat.

This has wide-reaching implications for professional behaviour, attitudes, and mindsets, and for institutional cultures and structures. Sherwood and Bentley (this issue), for example, point out that people-centred, community-based issues are in conflict with dominant professional behaviour and with dominant institutional designs. Outsiders are facilitators and co-learners, not 'teachers' or 'experts'. Participatory processes need time to develop and they need flexible funding. They do not fit with the pre-determined calendars, budgets, and outputs demanded by government and other organisations.

The way in which adaptation activities are funded may be of help here. Poor nations argue that, as wealthy nations have caused the problems of climate change, any international funding streams for adaptation activities should be used as recipient countries and communities see fit, and that such funding should be more stable and long-term than development funding, which is subject to the conditions and priorities of donors. This provides an opportunity for flexible, long-term funding of participatory community-based adaptation processes.

In the rush to go to scale to respond to climate change adaptation and to spend newly available funds, there is a danger that, as with PRA in the 1990s, participatory CBA approaches will be abused and misused. At the end of this issue, in 'Reflections on practical ethics for participatory community-based adaptation,' we have reproduced a statement by a group of practitioners called 'Sharing our concerns' (Absalom *et al.*), which was published in *PLA* (then *PLA Notes*) in 1994. This statement is essentially an ethical code for participatory practitioners, and with a few amendments, it has stood the test of time. We have also included here an extract from an article in a more recent issue, *PLA* 54 (Rambaldi *et al.*, 2006) on practical ethics for participatory development practitioners.

Honest critical reflection – of the sort exemplified by Warrick (this issue) – is essential if CBA practitioners are to learn from each others' experiences. For example, what happens when, as Warrick cautions, climate change is not seen as a priority in communities, where a highly variable climate is regarded as 'normal', or where climate change impacts are not yet evident, even though scientists are confident that

Table 2: Types of participation	
Type of participation	**Characteristics**
Passive participation	People participate by being told what is going to happen or has already happened. It is a unilateral announcement by an administration or project management without listening to people's responses. The information being shared belongs only to external professionals.
Participation in information giving	People participate by answering questions posed by extractive researchers using questionnaire surveys or similar approaches. People do not have the opportunity to influence proceedings as the findings of the research are neither shared nor checked for accuracy.
Participation by consultation	People participate by being consulted, and external people listen to views. These external professionals define both problems and solutions, and may modify these in the light of people's responses. Such a consultative process does not concede any share in decision-making, and professionals are under no obligation to take on board people's views.
Participation for material incentives	People participate by providing resources, for example labour, in return for food, cash, or other material incentives. Much on-farm research falls into this category as farmers provide the fields but are not involved in the experimentation or the process of learning. It is very common to see this called participation, yet people have no stake in prolonging activities when the incentives end.
Functional participation	People participate by forming groups to meet predetermined objectives related to the project, which can involve the development or promotion of externally initiated social organisation. Such involvement does not tend to be at early stages of project cycles or planning, but rather after major decisions have been made. These institutions tend to be dependent on external initiators and facilitators, but may become self-dependent.
Interactive participation	People participate in joint analysis, which leads to action plans and the formation of new local institutions or the strengthening of existing ones. It tends to involve interdisciplinary methodologies that seek multiple perspectives and make use of systematic and structured learning processes. These groups take control over local decisions and so people have a stake in maintaining structures or practices.
Self-mobilisation	People participate by taking initiatives independent of external institutions to change systems. They develop contacts with external institutions for resources and technical advice they need, but retain control over how resources are used. Such self-initiated mobilisation and collective action may or may not challenge existing inequitable distributions of wealth and power.

Table 2: A typology of participation[5]

there will be serious impacts? What happens when an external organisation's focus and funding does not match the priorities raised by communities? Without the flexibility to address communities' real concerns, it is difficult for the process of adaptation to be community-driven.

Difficulties with the concept of 'community'

Whilst CBA focuses on 'the community', it is very important to be aware of differences in priorities, needs, vulnerability, and capacities within communities. Tanner *et al.*, for example, show that there are marked differences in perceptions of the

[5] Table sourced from Pretty *et al*. (1995), who adapted it from Adnan *et al*. (1992).

Box 4: Looking within the community

Climate change impacts have different effects on women and on men and have been well attested in many places. The need to find water as well as firewood and fodder is a well-known reason for girls to be kept out of school, and male migration has been linked to the spread of HIV and AIDS.

In Nepal, increasing crop failure has increased the strategy of men migrating. Women are left alone to look after families yet with the least access to resources to be able to adapt. They have less access to cultivable land to grow food and have to find water, wood, and fodder. Any worsening of livelihood options has to be made up in physical labour, one of the few resources women control. So to compensate for the decline in food production, women are doing more daily waged labour. This is often extremely onerous – such as portering construction materials – and badly paid – women are paid only three-quarters of what a man would earn for the same work.

Source: S. Jennings and J. McGrath (2009).

importance of different hazards by age and gender in the Philippines. Men, as the farmers in these communities, highlighted agricultural hazards such as pests and drought, whilst women were concerned with social hazards (gambling, drugs), and children had the most awareness of environmentally unsound livelihood practices and global environmental problems.

Different sections of the community also vary in their capacity to undertake adaptation activities. Women are particularly badly affected by the combination of climatic and environmental stresses, but their particular needs and wishes for adaptation are less likely to be heard or acted upon (Jennings and McGrath, 2009) (see Box 4). Children are affected by both current and future climate change impacts, yet their voices are rarely heard or considered in climate change adaptation activities (Plush, this issue).

In many National Adaptation Programmes of Action (NAPAs), agriculture and forestry feature heavily as priority projects. However, McGrath and Jennings (2009) point out that, in Malawi, women prioritised a crèche, family planning, access to loans, credit, training, and free healthcare over support for agriculture. They argued that without childcare and support to start up small enterprises, they could not make adaptation changes.

Wong (this issue) highlights the dangers of ignoring intra-community power differentials when planning adaptation activities. Local chiefs ensured that their family members were included as community representatives, excluding the voices and interests of poorer farmers from decision-making processes. Even though the project made special efforts to ensure gender balance, planned adaptation activities were both poverty insensitive and served to reinforce existing power inequalities.

Many articles in this issue use participatory approaches in a differentiated way to capture the perspectives of different groups. Some make particular efforts to ensure that more vulnerable households, and vulnerable individuals within households, are included, for example, the participatory modelling process described by Gaillard and Maceda, giving the opportunity to ensure that the voices of those people are heard. Less is said, however, about analysing power relations within communities, and how differences in needs and priorities can be reconciled. We need to keep asking: Who benefits? Who loses? Who is empowered? Who is disempowered?[6]

Monitoring and evaluation

Monitoring and evaluation (M&E) of CBA activities will also be a challenge. Good CBA should be truly participatory and

[6] See 'Reflections on practical ethics for participatory community-based adaptation,' this issue. Source: Rambaldi *et al.*, 2006.

Photo: Terry Cannon

Houses raised on plinths to try and keep them above flood levels, 2007, near Khulna, Bangladesh.

devolve much of the decision-making down to the community level, but this makes any centralised reporting or evaluation activities more difficult to coordinate. This is an important issue, because it is the responsibility of industrialised nations to help poor countries adapt to climate change, so some means of evaluating the effectiveness of funded CBA programmes is required. But any move towards centralised tracking and evaluating systems must be sure not to lose sight of the need to facilitate genuine participatory processes that empower communities to adapt to climate change in ways which address locally identified priorities.

Policies and institutions for CBA

Whilst CBA is focused on the community level, it cannot be carried out in isolation from events and activities occurring at other levels, for example:

- CBA is affected by the services and support available (or more often not available) at district and national levels, for example, long-range weather forecasts, downscaled climate scenarios, satellite images, information on weather forecasting, and agricultural and other extension services, and the ability of support organisations to integrate their activities.
- Some adaptation activities have spill-over effects on other communities, for example,

if one community builds a dam to cope with drought, this will affect communities lower down the river. Wong (this issue), for example, describes how communities participated in transboundary river water governance in Burkina Faso and Ghana, which allowed for coordination and advance warning over the flow of water.

• Policy makers at district, national, and international levels need to know how communities are being affected by climate change, and to understand and respond to communities' priorities and needs. This might be through participation in 'invited' spaces, such as through participatory scenario development workshops (Bizikova *et al.* this issue)[7], or through advocacy by communities (e.g. Plush describes how videos produced by children influenced policy makers in Nepal), or by communities organising and putting pressure on powerful local actors (Dodman, Mitlin, and Rayos, unpublished abstract).

Some CBA approaches explicitly build in a multi-level approach. Action Aid, for example, uses participatory vulnerability analysis (PVA), which starts by assessing vulnerability at the community level, but this feeds into the district, national, and international levels. They argue that there are multiple determinants/causes of vulnerability, and many of these fall outside individuals or communities. Hence analysis of vulnerability must go beyond the individual to micro- and macro-level political processes. Similarly, Practical Action have been developing a framework for understanding, analysing, and addressing the multiple factors – lack of resources; fragile livelihoods; hazards; climate change; political marginalisation; and, weak institutional support mechanisms – that contribute to vulnerability in an integrated and holistic manner (Pasteur, 2009).

Conclusion

The theory and practice of CBA are still in their infancy. Both are likely to grow very rapidly, however, as needs increase as a result of intensifying climate change impacts and as interest in and support for adaptation grows at national and international levels.

Although funding is increasingly available for adaptation activities, simply providing poor country governments with more money does not mean that it will reach the poor and those who are most vulnerable to climate change, let alone increase their ability to adapt. Such communities are often marginalised, remote, and receive limited services and little support from their governments even when they are able to articulate what support they need. Reaching these hundreds of millions of people and supporting their genuine participation in any decision-making about resource allocation for CBA will be an immense challenge for any international or national programme or funding mechanism focusing on adaptation.

Whilst CBA initiatives are increasing in number and information sharing on these activities is developing, translating these activities and documentation into improved policy responses and scaled up CBA initiatives worldwide remains a challenge. Power structures are at the heart of climate change vulnerability and it is important to find ways to allow poor vulnerable people to influence policy and be heard in key policy arenas, such as the UNFCCC negotiations.

To be successful, community-based adaptation programmes will need to ensure that communities are able to participate in identifying priorities, both local and regional, and in planning, implementing, monitoring, and reviewing adap-

[7] Participatory scenario development workshops engage those most directly concerned (e.g. community members, local officals) in discussions about how the future may develop, and about possible adaptation pathways, and their pros and cons. The conclusions may feed into local, district, and national planning.

Box 3: Sharing information on CBA

The second and third International Conferences on Community-Based Adaptation were held in Dhaka, Bangladesh, in February 2007 and February 2009. This will become an annual event at which practitioners, policy makers and researchers can share information on methodologies for CBA, upscaling CBA, communicating CBA, CBA in different ecosystems, funding for CBA etc. The next will be held in Dar es Salaam, Tanzania in February 2010. The conferences involve field visits to CBA projects in different ecosystems and regions so people can see CBA activities on the ground.[8]

tation. Such programmes should provide support and link communities to relevant decision-making institutions. They will also need to build the capacity of local organisations and local governments to enable them to effectively take part in decision-making processes.[9]

CBA draws on a number of different fields, including disaster relief work, community development work, and climate science. These different areas of knowledge and expertise often employ different languages and concepts, and there is still much work to be done in developing a common understanding and language, and sharing experiences and good practice.

Continuing to document CBA processes in an honest and critical way is very important, both to improve practice and to share experience in little-documented areas, such as incorporating climate change adaptation into health policy. You will find a list of resources on CBA, including websites, later in this issue. Other important opportunities for experience-sharing include the International Conferences on Community-Based Adaptation (see Box 3), and the two-day Development and Climate Days event, held each year during the Conference of Parties (COP) to the UNFCCC. This event has a dedicated CBA session to share information on CBA with negotiators and observers at the international climate change negotiations.[10] CBA practitioners can also benefit from the rich literature that is available on participation.[11]

Final thoughts

We face increasing pressure to meet the myriad challenges that a changing climate presents. As this new community of practice emerges and matures, the ethics and quality of participatory processes will be central to the success of community-based adaptation to climate change – and there are both opportunities and dangers. As Absalom *et al*. wrote in 1994,

> *The opportunities are to initiate and sustain processes of change: empowering disadvantaged people and communities, transforming organisations, and reorienting individuals. The dangers come from demanding too much, in a top-down mode, too fast, with too little understanding of participatory development and its implications.*

[8] The second and third conferences were run by the Bangladesh Centre for Advanced Studies. See www.bcas.net for more information. See www.iied.org for more information on the forthcoming 4th CBA conference in Tanzania.
[9] ESRC-funded seminar, Integrating Approaches: Sustainable Livelihoods, Disaster Risk Reduction and Climate Change Adaptation, December 2009, organised by Practical Action (www.practicalaction.org.uk). See: http://community.eldis.org/.59cc7287
[10] These events are run by the International Institute for Environment and Development. For more information see: http://tinyurl.com/iied-COP15-d-c. Full URL: www.iied.org/climate-change/key-issues/climate-negotiations-capacity-building/cop15-development-and-climate-days
[11] See, for example, www.planotes.org for back issues of *Participatory Learning and Action*. Recent issues include *PLA* 54: Mapping for change: practice, technologies, and communication, and *PLA* 55: Practical tools for community conservation in southern Africa. *PLA* 50: Critical reflections, future directions looks at participation in a wide range of different fields, as well as focusing on good participatory practice and ethics. IIED's *Participatory Learning and Action: A Trainers Guide* is also an invaluable resource on participatory approaches, processes, and methods.

As we move forward with community-based adaptation to climate change, we hope that this issue of *Participatory Learning and Action* will contribute to learning and experience sharing around CBA – and help to promote good participatory practice.

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Annex 1: Predicted impacts of climate change, vulnerability, and adaptive capacity by region		
Region	**Likely regional impacts of climate change**	**Vulnerability, adaptive capacity**
Africa	• By 2020, between 75 million and 250 million people are projected to be exposed to increased water stress due to climate change. Coupled with increased demand, this will adversely affect livelihoods and exacerbate water-related problems. • Agricultural production, including access to food, in many African countries and regions is projected to be severely compromised by climate variability and change. The area suitable for agriculture, the length of growing seasons and yield potential, particularly along the margins of semi-arid and arid areas, are expected to decrease. This would further adversely affect food security and exacerbate malnutrition in the continent. In some countries, yields from rain-fed agriculture could be reduced by up to 50% by 2020. • Local food supplies are projected to be negatively affected by decreasing fisheries resources in large lakes due to rising water temperatures, which may be exacerbated by continued overfishing. • Towards the end of the 21st century, projected sea-level rise will affect low-lying coastal areas with large populations. The cost of adaptation could amount to at least 5-10% of Gross Domestic Product (GDP). Mangroves and coral reefs are projected to be further degraded, with additional consequences for fisheries and tourism.	• Most vulnerable due to multiple stresses and low adaptive capacity is low due to low GDP per capita, widespread poverty (the number of poor grew over the 1990s), inequitable land distribution, and low education levels. There is also an absence of safety nets, particularly after harvest failures. • More than one quarter of the population lives within 100 km of the coast and most of Africa's largest cities are along coasts vulnerable to sea-level rise, coastal erosion, and extreme events. • Individual coping strategies for desertification are already strained, leading to deepening poverty. • Dependence on rain-fed agriculture is high. • Adaptive capacity is likely to be greatest in countries with civil order, political openness, and sound economic management. Some adaptation to current climate variability is taking place; however, this may be insufficient for future changes in climate.
Asia	• Glacier melt in the Himalayas is projected to increase flooding, rock avalanches from destabilised slopes, and to affect water resources within the next two to three decades. This will be followed by decreased river flows as the glaciers recede. • Freshwater availability in Central, South, East, and South-East Asia, particularly in large river basins, is projected to decrease due to climate change which, along with population growth and increasing demand arising from higher standards of living, could adversely affect more than a billion people by the 2050s. • Coastal areas, especially heavily populated megadelta regions in South, East and South-East Asia, will be at greatest risk due to increased flooding from the sea and, in some megadeltas, flooding from the rivers.	• Adaptive capacity varies between countries depending on social structure, culture, economic capacity, and level of environmental degradation. • As a region, poverty in both rural and urban areas has decreased in Asia. • Capacity is increasing in some parts of Asia (for example, the success of early warning systems for extreme weather events in Bangladesh), but is still restrained due to poor resource bases, inequalities in income, weak institutions, and limited technology.

Annex 1 (continued): Predicted impacts of climate change, vulnerability, and adaptive capacity by region		
Region	**Likely regional impacts of climate change**	**Vulnerability, adaptive capacity**
Asia (continued)	• Climate change is projected to impinge on the sustainable development of most developing countries of Asia, as it compounds the pressures on natural resources and the environment associated with rapid urbanisation, industrialisation, and economic development. • It is projected that crop yields could increase by up to 20% in East and South-East Asia while they could decrease up to 30% in Central and South Asia by the mid-21st century. Taken together, and considering the influence of rapid population growth and urbanisation, the risk of hunger is projected to remain very high in several developing countries. • Endemic morbidity and mortality due to diarrhoeal disease primarily associated with floods and droughts are expected to rise in East, South and South-East Asia due to projected changes in the hydrological cycle associated with global warming. • Increases in coastal water temperature would exacerbate the abundance and/or toxicity of cholera in South Asia.	
Latin America	• By mid-century, increases in temperature and associated decreases in soil water are projected to lead to gradual replacement of tropical forest by savannah in eastern Amazonia. Semi-arid vegetation will tend to be replaced by arid-land vegetation. There is a risk of significant biodiversity loss through species extinction in many areas of tropical Latin America. • In drier areas, climate change is expected to lead to salination and desertification of agricultural land. Productivity of some important crops is projected to decrease and livestock productivity to decline, with adverse consequences for food security. In temperate zones soya bean yields are projected to increase. • Sea-level rise is projected to cause increased risk of flooding in low-lying areas. Increases in sea surface temperature due to climate change are projected to have adverse effects on Mesoamerican coral reefs, and cause shifts in the location of south-east Pacific fish stocks. • Changes in precipitation patterns and the disappearance of glaciers are projected to	• Some social indicators have improved over the 1990s, including adult literacy, life expectancy, and access to safe water. • Other factors such as infant mortality, low secondary school enrolment, and high income inequality contribute to limiting adaptive capacity. • Some countries have made efforts to adapt, particularly through conservation of key ecosystems, early warning systems, risk management in agriculture, strategies for flood drought and coastal management, and disease surveillance systems. However, the effectiveness of these efforts is outweighed by: lack of basic information, observation and monitoring systems; lack of capacity building and appropriate

Annex 1 (continued): Predicted impacts of climate change, vulnerability, and adaptive capacity by region

Region	Likely regional impacts of climate change	Vulnerability, adaptive capacity
Latin America (contiued)	significantly affect water availability for human consumption, agriculture, and energy generation.	political, institutional, and technological frameworks; low income; and settlements in vulnerable areas, among others.
Small Island States	• The projected sea-level rise of 5 mm/yr for the next hundred years would cause enhanced soil erosion, loss of land, poverty, dislocation of people, increased risk from storm surges, reduced resilience of coastal ecosystems, saltwater intrusion into freshwater resources and high resource costs to respond to and adapt to changes. • Coral reefs would be negatively affected by bleaching and by reduced calcification rates due to higher carbon dioxide levels; mangrove, sea grass bed, and other coastal ecosystems and the associated biodiversity would be adversely affected by rising temperatures and accelerated sea-level rise. • Small islands, whether located in the tropics or higher latitudes, have characteristics which make them especially vulnerable to the effects of climate change, sea-level rise and extreme events. • Deterioration in coastal conditions, for example through erosion of beaches and coral bleaching, is expected to affect local resources, e.g. fisheries, and reduce the value of these destinations for tourism. • Sea-level rise is expected to exacerbate inundation, storm surge, erosion, and other coastal hazards, thus threatening vital infrastructure, settlements, and facilities that support the livelihoods of island communities. Climate change is projected by mid-century to reduce water resources in many small islands, e.g. in the Caribbean and Pacific, to the point where they become insufficient to meet demand during low-rainfall periods. • With higher temperatures, increased invasion by non-native species is expected to occur, particularly on mid- and high latitude islands.	• Adaptive capacity of human systems is generally low in small island states, and vulnerability high; small island states are likely to be among the countries most seriously impacted by climate change. • Declines in coastal ecosystems would negatively impact reef fish and threaten reef fisheries, those who earn their livelihoods from reef fisheries, and those who rely on the fisheries as a significant food source. • Limited arable land and extensive soil salination make agriculture on small islands, both for domestic food production and cash crop exports, highly vulnerable to climate change. • Tourism, an important source of income and foreign exchange for many islands, would face severe disruption from climate change and sea-level rise.

Source: Adapted from IPCC (2007).

Glossary

Adaptation
Adjustment in natural or human systems in response to actual or expected climate stimuli or their effects, which moderates harm or exploits beneficial opportunities. Various types of adaptation can be distinguished, including anticipatory and reactive adaptation, private and public adaptation, and autonomous and planned adaptation (IPCC).

Adaptive capacity
The ability of a system to adjust to climate change, including climate variability and extremes; to moderate potential damages; to take advantage of opportunities; or to cope with the consequences (IPCC, 2007).

Climate change
A change of climate which is attributed directly or indirectly to human activity that alters the composition of the global atmosphere and which is in addition to natural climate variability observed over comparable time periods (UNFCCC).

Climate change mitigation
Technological change and substitution that reduce resource inputs and emissions per unit of output. Although several social, economic, and technological policies would produce an emission reduction, with respect to climate change, mitigation means implementing policies to reduce greenhouse gas emissions and enhance sinks (see also **Greenhouse gas**) (IPCC, 2007).

Climate hazard
Potentially damaging physical manifestations of climatic variability or change, such as droughts floods, storms, episodes of heavy rainfall, long-term changes in the mean values of climatic variables, potential future shifts in climatic regimes, and so on (Brooks, 2003).

Climate impacts
Consequences of climate and climate change on natural and human systems.

Climate model
A numerical representation of the climate

system based on the physical, chemical, and biological properties of its components, their interactions and feedback processes, and accounting for all or some of its known properties. The climate system can be represented by models of varying complexity (i.e. for any one component or combination of components a hierarchy of models can be identified, differing in such aspects as the number of spatial dimensions, the extent to which physical, chemical, or biological processes are explicitly represented, or the level at which empirical parameterisations are involved (IPCC, 2007).

Climate trend

The general direction in which climate factors, such as average annual temperature or rainfall, tend to move over time.

Climate variability

The UNFCC makes a distinction between 'climate change', attributable to human activities altering the atmospheric composition, and 'climate variability', attributable to natural causes.

Coping capacity

The ability of people, organisations, and systems, using available skills and resources, to face and manage adverse conditions, emergencies or disasters (UNISDR, 2009).

Disaster risk management

The systematic process of using administrative directives, organisations, and operational skills and capacities to implement strategies, policies, and improved coping capacities in order to lessen the adverse impacts of hazards and the possibility of disaster (UNISDR, 2009).

Disaster

An event, either natural or man-made, that causes great distress or destruction. It is a social crisis which occurs when a hazard coincides with a vulnerable situation, resulting in significant loss of life, severe life-threatening disruption, and substantial physical damage (Tearfund).

Disaster risk reduction

The concept and practice of reducing disaster risks through systematic efforts to analyse and manage the causal factors of disasters, including through reduced exposure to hazards, lessened vulnerability of people and property, wise management of land and the environment, and improved preparedness for adverse events (UNISDR, 2009).

Early warning system

The set of capacities needed to generate and disseminate timely and meaningful warning information to enable individuals, communities, and organisations threatened by a hazard to prepare and to act appropriately and in sufficient time to reduce the possibility of harm or loss (UNISDR, 2009).

El Niño – or El Niño Southern Oscillation (ENSO)

A complex interaction of the tropical Pacific Ocean and the global atmosphere that results in irregularly occurring episodes of changed ocean and weather patterns in many parts of the world, often with significant impacts over many months, such as altered marine habitats, rainfall changes, floods, droughts, and changes in storm patterns (UNISDR, 2009).

El Niño and La Niña are defined as sustained sea surface temperature anomalies of magnitude greater than 0.5°C across the central tropical Pacific Ocean, El Niño being a warming and La Niña a cooling event. El Niño events are associated with wetter weather in Peru/Ecuador and East Africa and drier conditions in South-East Asia, northern Australia, and Southern Africa. La Niña events generally cause the opposite and are associated with increased Atlantic cyclones. Climate change may increase the strength and frequency of the oscillation.

Extreme weather event

An event that is rare within its statistical

reference distribution at a particular place. Definitions of 'rare' vary, but an extreme weather event would normally be as rare as or rarer than the 10th or 90th percentile. By definition, the characteristics of what is called 'extreme weather' may vary from place to place. Extreme weather events may typically include floods and droughts (IPCC, 2007).

Forecast

Definite statement or statistical estimate of the likely occurrence of a future event or conditions for a specific area (UNISDR, 2009).

Geographic information system (GIS)

A computer-based system designed to collect, store, manage, and analyse spatially referenced information and associated attribute data. **Participatory GIS** (**PGIS**) facilitates the representation of local people's spatial knowledge using two- and three-dimensional maps. These maps can be used to facilitate decision-making processes, as well as support communication and advocacy. Unlike traditional GIS applications, PGIS places control over access and use of culturally sensitive spatial data in the hands of those communities that generated it (Corbett *et al*., 2006).

Greenhouse gas

A gas that absorbs radiation at specific wavelengths within the spectrum of radiation (infrared radiation) emitted by the Earth's surface and by clouds. The gas in turn emits infrared radiation from a level where the temperature is colder than the surface. The net effect is a local trapping of part of the absorbed energy and a tendency to warm the planetary surface. Water vapour (H2O), carbon dioxide (CO2), nitrous oxide (N2O), methane (CH4), and ozone (O3) are the primary greenhouse gases in the Earth's atmosphere (IPCC, 2007).

Hazard impacts

Impacts related to dangerous phenomena, substances, human activities or conditions that may cause loss of life, injury or other health impacts, property damage, loss of livelihoods and services, social and economic disruption, or environmental damage (UNISDR, 2009).

Indigenous knowledge

Also referred to as local knowledge, is the ancient, communal, holistic, and spiritual knowledge that encompasses every aspect of human existence (Brascoupé and Mann, 2001).

Institutions

Institutions are humanly created formal and informal mechanisms that shape social and individual expectations, interactions, and behaviour. They can be classified as falling into public (bureaucratic administrative units, and elected local governments), civic (membership and cooperative organisations), and private sectors (service and business organisations) (Uphoff and Buck, 2006). Understanding how local institutions and their organisational forms shape the adaptation practices of poor communities is important for strengthening communities' adaptive capacities.

Livelihoods

A livelihood comprises the capabilities, assets (stores, resources, claims, and access), and activities required for a means of living. A livelihood is sustainable when it can cope with and recover from stress and shocks, maintain or enhance its capabilities and assets, and provide sustainable livelihood opportunities for the next generation; and which contributes net benefits to other livelihoods at the local and global levels in the long- and short-term (Chambers and Conway, 1992).

Maladaptation

Actions that increase vulnerability to climate change. This includes making development or investment decisions while neglecting the actual or potential impacts

of both climate variability and longer-term climate change (Burton, 1998).

Maladaptation feedbacks
Consequences of actions taken to reduce short-term vulnerability which then accelerate medium or long-term vulnerability to climate change.

National Adaptation Programmes of Action (NAPAs)
Documents prepared by least developed countries identifying urgent and immediate needs for adapting to climate change. The NAPAs are then presented to the international donor community for support (UNFCCC).

Remote sensing
The process of gathering information about the Earth from a distance. Such data is commonly gathered by satellite or air (aerial) photography (IAPAD).

Resilience
The ability of a system, community or society exposed to hazards to resist, absorb, accommodate, and recover from the effects of a hazard in a timely and efficient manner, including through the preservation and restoration of its essential basic structures and functions (UNISDR, 2009).

Risk
Expected damage or loss due to the combination of vulnerability and hazards.

Scenario
A plausible and often simplified description of how the future may develop, based on a coherent and internally consistent set of assumptions about driving forces and key relationships. Scenarios may be derived from projections, but are often based on additional information from other sources, sometimes combined with a narrative storyline (IPCC, 2007).

Triangulation
The verification of information gained from one source or methodology with that gained from one or more other sources or methodologies.

Vulnerability
The extent to which a natural or social system is susceptible to sustaining damage from hazards caused by climate change, and is a function of the magnitude of climate change, the sensitivity of the system to changes in climate, and the ability to adapt the system to changes in climate. Hence, a highly vulnerable system is one that is highly sensitive to modest changes in climate and one for which the ability to adapt is severely constrained (IPCC, 2007).

SOURCE
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Definitions and figures that are unattributed were generally based on original material, multiple information sources, and/or adapted substantially to ensure they relate to the Christian Aid context (or a combination of these).

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PART I

Reflections on participatory processes and practice

Articles in this section have a variety of entry points, including participatory vulnerability analysis, disaster risk reduction frameworks, and Farmer Field Schools. The case studies provide a rich source of experience and lessons for CBA practitioners.

2

Combining different knowledges: community-based climate change adaptation in small island developing states

by ILAN KELMAN, JESSICA MERCER, and JENNIFER J. WEST

Introduction

Throughout history, indigenous peoples around the world have successfully adjusted to social and environmental changes. However climate change is undermining many existing livelihoods based on natural resources and challenging the relevance of indigenous knowledge on which those livelihoods are based. Similarly, current scientific knowledge about climate change and weather patterns is limited, and can rarely provide all that is needed for dealing with change. The challenge is to find ways of combining indigenous and scientific knowledge to help in successful adaptation at community level.

This paper describes a community-based framework for combining different types of knowledge to address climate change. It builds on earlier work by Mercer to develop and pilot a framework for addressing disaster risk reduction in Small Island Developing States (SIDS).[1] The 52 SIDS face similar sustainability challenges, including exceptional vulnerability to climate change.

The framework also draws on an assessment of climate change impacts, vulnerability, and adaptation across SIDS prepared by Kelman, West, and colleagues under the Many Strong Voices (MSV) programme.[2] The MSV assessment work indicates that many SIDS communities have extensive indigenous knowledge and traditional skills that have helped them to deal with

[1] The United Nations International Strategy for Disaster Reduction defines disaster risk reduction as 'systematic efforts to analyse and manage the causal factors of disasters, including through reduced exposure to hazards, lessened vulnerability of people and property, wise management of land and the environment, and improved preparedness for adverse events'. See Kelman and Gaillard (2008) for one discussion about similarities, differences, and linkages between disaster risk reduction and climate change.

[2] The programme is supported by a consortium of donors including the Government of Norway and is led by UNEP/GRID-Arendal and the Center for International Climate and Environmental Research – Oslo (CICERO), for whom two of the authors work. MSV seeks to catalyse local action about climate change through capacity building, research, education, and outreach. See www.manystrongvoices.org for more details.

Figure 1: Map of PNG illustrating village locations

change for centuries (CICERO and UNEP/GRID-Arendal, 2008). That assessment provided the baseline for applying the disaster risk reduction work directly to climate change as reported in this paper.

We begin this paper by describing the framework developed for addressing disaster risk reduction (DRR), highlighting some of the participatory approaches used. We then show how the framework could be adapted to address climate change.

DRR framework scope and method

The framework was originally developed with indigenous communities in Papua New Guinea (PNG), one of the 52 SIDS. Subsistence agriculture is the main livelihood for the majority of PNG's population,

which is 87% rural (PNG National Statistical Office, 2003). More than 400 crop species are grown for food across the country – mainly on land passed down through families for generations – reflecting the country's enormous environmental variations (Department of Lands and Physical Planning, 2005). Indigenous knowledge and indigenous practices are being undermined by a combination of 'modernisation', national pressures including urbanisation, and global changes including climate change.

Mercer carried out fieldwork in PNG in 2006-2007 in three rural villages, Singas, Kumalu, and Baliau (Figure 1). Respectively, these communities are affected by floods, floods and landslides, and an erupting volcano. The villages were selected based principally on their previously expressed interest in participating in disaster risk reduction activities after community members had approached PNG authorities for assistance. Throughout the work, rapport and trust were built by participating in community tasks, including gardening, cooking, playing with children, and going to market to buy and sell goods.

In each village, with the community members' agreement, the fieldwork method used was 'guided discovery' in which an external facilitator helps community members draw on past experiences and local knowledge to seek new relationships, connections, and ideas that assist them to take action. Guided discovery was supplemented with other participatory techniques, including mapping exercises, timelines, and matrix rankings (see Mercer *et al*., 2008, 2009a, b). In each context, these exercises must be selected in consultation with the population, especially regarding literacy levels.

As part of the guided discovery, communities developed a process framework (Figure 2). This helped guide community members through an in-depth exploration of factors contributing to their disaster vulnerability and the use of indigenous and external scientific knowledge to reduce that vulnerability. Four steps were used (Mercer *et al*. 2009a, b), as described below.

Step one: collecting background information

Mercer collected background information through participatory group work (Figures 3 and 4), identifying general community information, interests, and goals. Each group session, and in the other steps too, was attended by community representatives selected themselves and covering a variety of ages within the ethnically homogenous villages. Genders were generally segregated and then brought together to present to each other (Figure 4), because in PNG men usually dominate discussions whereas this work sought input from both genders.

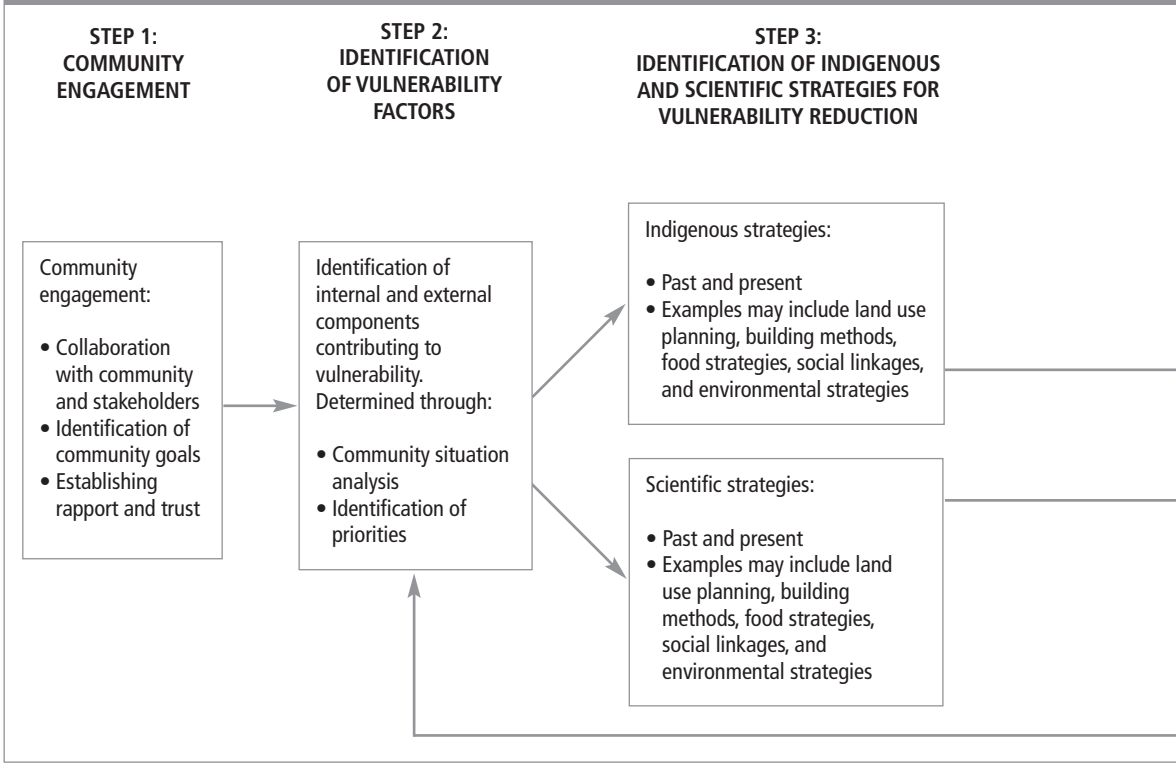
The results from the group sessions were presented to the entire community at a community meeting to confirm or revise information. Examples of the information gleaned were village history, hazard and event timelines, maps, and environmental and social trends, with examples given in Figure 5.

Step two: identifying underlying vulnerability factors

With this baseline, communities identified underlying vulnerability factors, both external and internal. External factors are those beyond a community's control, such as storms and volcanic eruptions. Internal factors can be controlled by the community to a large extent, such as changing crops or cropping patterns.

Although climate change was not this work's focus, climate change was mentioned as an external factor in all three villages. That is, through guided discovery, the villagers – not outsiders – determined that climate change was an important issue that should be addressed. This conclusion was reached during discussions about the

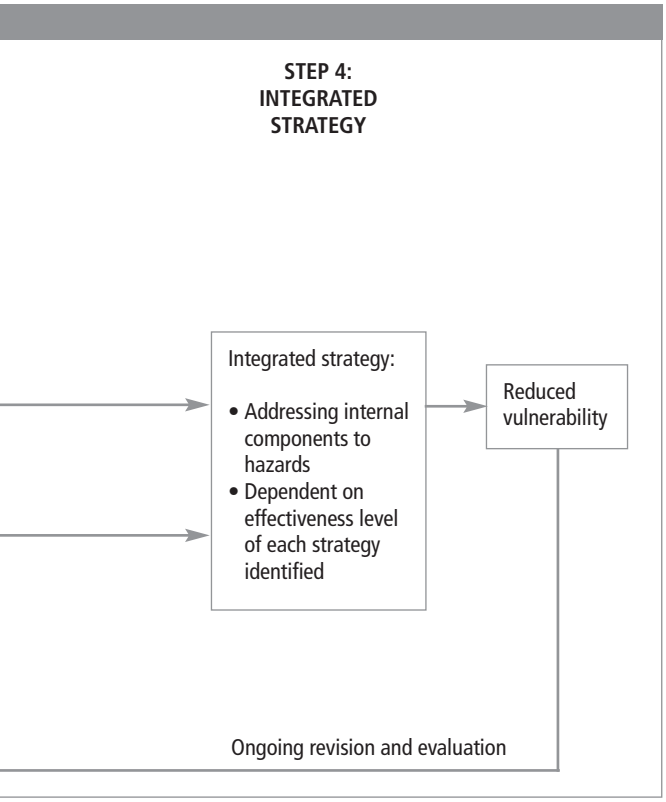
Figure 2: The original process framework developed and used in PNG



Source: Mercer *et al.* (2009b) with some text adjusted.

Photo: Jessica Mercer

Figure 3: An intense focus group discussion in Kumalu church where participants were discussing the impact of landslides and flooding upon Kumalu village.



natural resources that sustain their livelihoods. Villagers in all three locations discussed weather patterns, raised the issue of recently changing weather patterns, and connected those experiences to climate change. Whilst climate change was identified by the villagers as an external factor, it was not discussed in depth. Rather, the disaster risk reduction framework outlined here focused on the consequences of climate change internally and how these consequences could be addressed. The process highlighted the need to revise the framework to consider climate change, as this paper does.

Step three: identifying strategies for vulnerability reduction

Community members separated into groups to identify past and present indigenous and scientific strategies used to cope with the internal vulnerability factors identified. The distinction between 'external' science and 'internal' indigenous, traditional, or local knowledge(s) is not always straightforward.

Photo: Jessica Mercer

Figure 4: Men and women in Singas discussing maps drawn of the village and associated hazards.

Differences frequently highlighted are the different methods used to investigate and interpret the surrounding world along with science's attempts to separate knowledge from context compared to indigenous knowledge being deeply rooted in particular contexts. Community members themselves distinguished between the categories through identifying the knowledge, strategies, and resources available to them and through determining the source of each. Once strategies for vulnerability reduction were identified, community members scored the effectiveness of each strategy in reducing vulnerability.

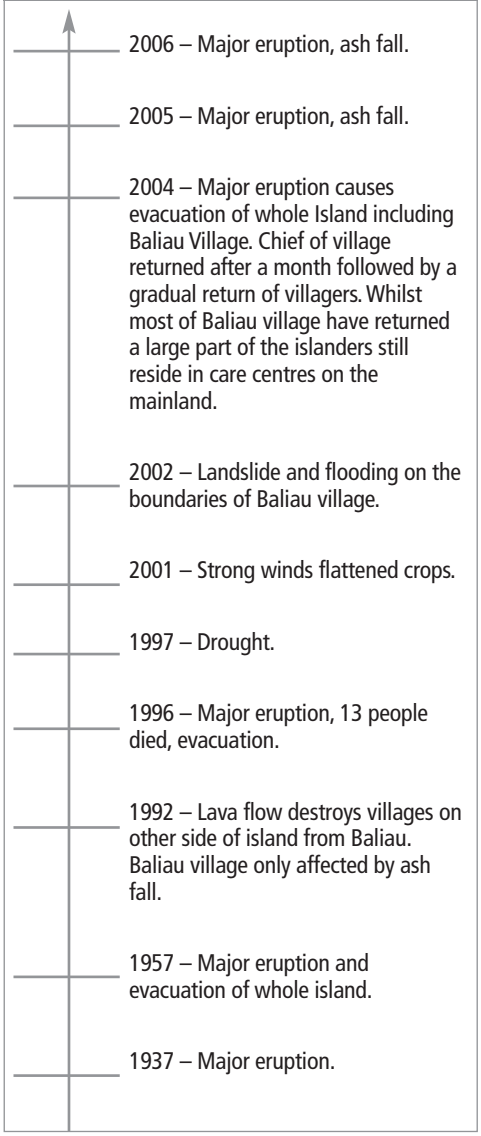
Step four: prioritising vulnerability reduction strategies

Community members prioritised possible vulnerability reduction strategies, based on the scoring. The scores were seen as a guide rather than as being absolute. On occasion, the scoring results led to qualitative discussion that further revised the scoring to reflect community members' views. Thus, the process was iterative and factored in intangible, qualitative views rather than rigidly adhering to numbers – an important principle within the framework. Identifying and prioritising the most effective strategies represented the integrated approach for reducing vulnerability by combining indigenous and scientific knowledge (Figures 5, 6 and 7).

Feedback from community members indicated that this approach enabled them to identify strategies that they felt were achievable using existing resources. The process also enabled them to identify varying stages and forms of vulnerability through time and how their own decisions, such as changing land use practices and building materials, could have contributed.

Guided discovery through the framework therefore focuses on the principle of encouraging awareness and responsibility within the communities to address their own vulnerabilities by themselves, especially the internal factors, but within the context of external factors. However, whilst applying and using the framework has been described for disaster risk reduction, follow-up work has yet to be completed for evaluating outcomes and for measuring over the long-term any discernible reductions in vulnerability.

Figure 5: Example of field results from implementing the framework for disaster risk reduction. Hazard timeline developed by Baliau community members, highlighting several climate- and non-climate-related events.



(Mercer *et al.*, 2009ab).

Figure 6: Example of field results from implementing the framework for disaster risk reduction. Cause-effect vulnerability tree developed by Singas community members outlining what they considered to be 'internal' and 'external' vulnerability factors.

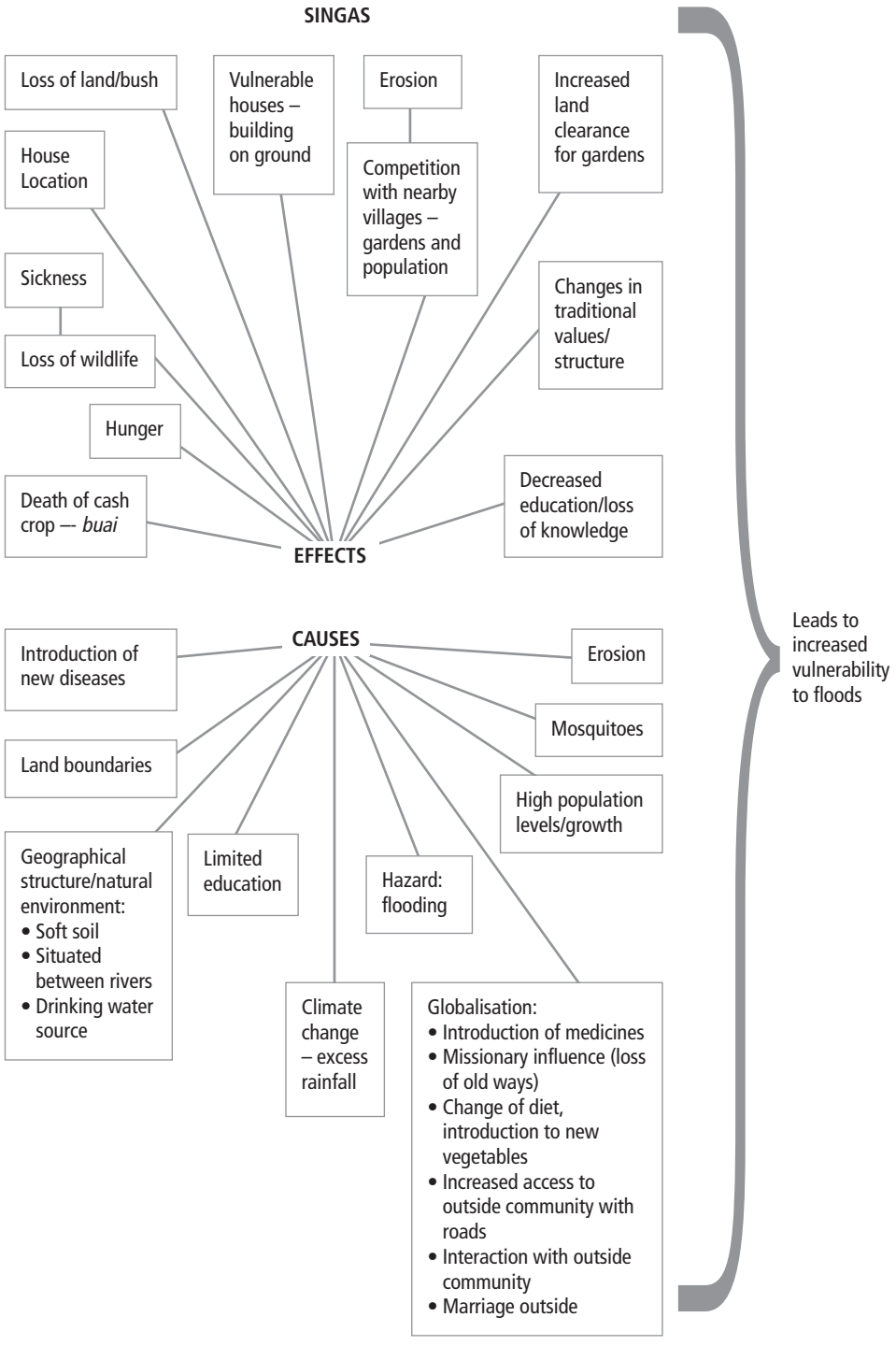
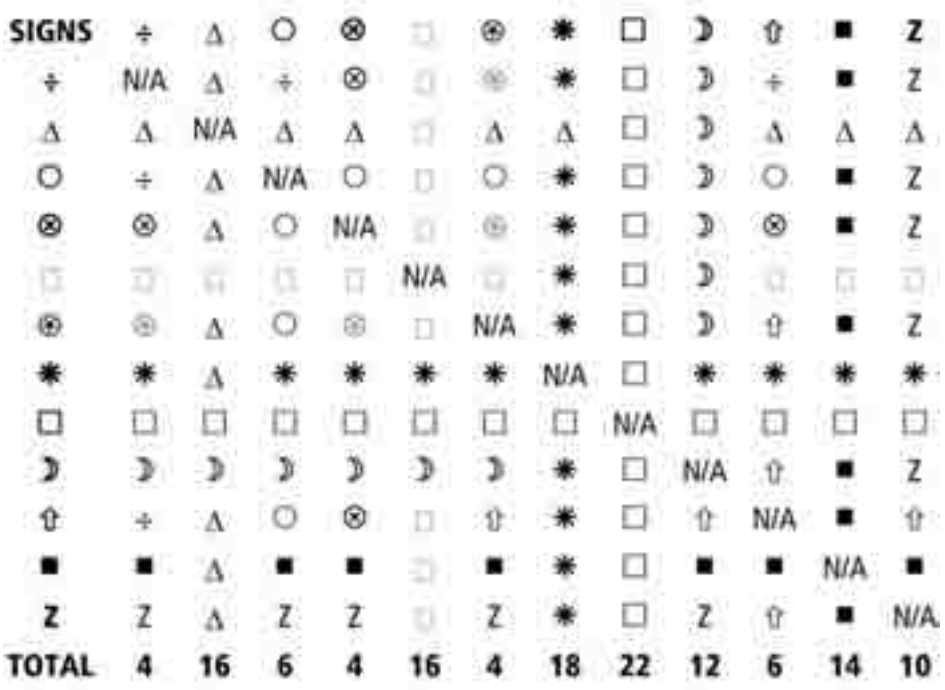


Figure 7: Example of field results from implementing the framework for disaster risk reduction. Example of a pairwise ranking grid completed by Kumalu community members to prioritise pre-identified vulnerability factors.



SIGNS	÷	Δ	○	⊗	□	⊛	✱	□	☽	⇧	■	Z
÷	N/A	Δ	÷	⊗	□	⊛	✱	□	☽	÷	■	Z
Δ	Δ	N/A	Δ	Δ	□	Δ	Δ	□	☽	Δ	Δ	Δ
○	÷	Δ	N/A	○	□	○	✱	□	☽	○	■	Z
⊗	⊗	Δ	○	N/A	□	⊛	✱	□	☽	⊗	■	Z
□	□	□	□	□	N/A	□	✱	□	☽	□	□	□
⊛	⊛	Δ	○	⊛	□	N/A	✱	□	☽	⇧	■	Z
✱	✱	Δ	✱	✱	✱	✱	N/A	□	✱	✱	✱	✱
□	□	□	□	□	□	□	□	N/A	□	□	□	□
☽	☽	☽	☽	☽	☽	☽	✱	□	N/A	⇧	■	Z
⇧	÷	Δ	○	⊗	□	⇧	✱	□	⇧	N/A	■	⇧
■	■	Δ	■	■	□	■	✱	□	■	■	N/A	■
Z	Z	Δ	Z	Z	□	Z	✱	□	Z	⇧	■	N/A
TOTAL	4	16	6	4	16	4	18	22	12	6	14	10

Key:

÷	Limited knowledge
Δ	Construction of houses in dangerous places
○	Lack of diversification of income sources
⊗	Minimal outside support
□	Land clearance (loss of bush/trees)
⊛	No community planning
✱	Land loss (gardens and coffee due to hazards)
□	Vulnerable housing
☽	Hunger
⇧	Changes in farming practices (coffee, vegetables etc.)
■	Garden accessibility
Z	Market access

Priority list order

1	Vulnerable housing
2	Land loss
3	Land clearance
4	Construction of houses in dangerous places
5	Garden accessibility
6	Hunger
7	Market access
8	Changes in farming practices
9	Lack of diversification of income sources
10	No community planning
11	Lack of knowledge
12	Minimal outside support

Notes:
- After discussion, people from Kumalu decided that 'limited knowledge' was more important than previously identified and so the priority list order was changed to move 'limited knowledge' to number 5.
- N/A (meaning 'not applicable') is used throughout the centre of a grid to avoid two of the same factors being compared against each other.

Using the framework to address climate change

The framework for disaster risk reduction targeted mainly floods, storms, landslides, and volcanic eruptions that the communities had previously experienced. Climate change is likely to alter the timing, severity, and frequency of some environmental hazards along with affecting weather seasonality. Consequently, the framework provides a useful entry point for discussing how and why communities could be vulnerable to, and could deal with, longer-term climate change. The framework has not yet been applied in the field for only climate change.

Figure 8 shows how the framework could be revised to address climate change. It incorporates knowledge gained from the MSV assessment (CICERO and UNEP/GRID-Arendal, 2008) of climate change impacts, vulnerability, and adaptation on SIDS.

Step one

Step one of the process remains unchanged, as it is important for determining communities' own priorities and concerns. In our experience, climate change is a priority for SIDS communities. SIDS communities are reporting climate change challenges.[3] They are actively seeking and supporting endeavours to address climate change, as shown by MSV. However, this may not be the case for communities elsewhere. If communities do not consider climate change to be a concern yet scientific evidence suggests otherwise – an unlikely occurrence for SIDS – then practitioners involved in using the framework will need to decide ethically and practically the appropriateness of trying to introduce, or force, climate change onto the community.

Step two

In step two, a global situation analysis is carried out, with global climate change causes and trends linked to local impacts and vulnerabilities. External scientific information indicating historical and potential future consequences of climate variability and change – for instance, satellite observations and downscaled climate projections for short- and long-term scenarios – could be presented and discussed to connect to internal vulnerability factors. For example, land use changes increased flood damage in both Singas and Kumalu as an internal vulnerability factor and that can be redressed locally in each place. Any changes must be done in the context of uncertainty in how flood characteristics will change due to climate change. The global situation analysis would identify both components and describe how they are linked. Suggested strategies for understanding the complete situation analysis range from fully accepting responsibility, to specific internal vulnerabilities, through to wider advocacy, education, and awareness-raising strategies regarding climate change causes and impacts, both in the community and beyond the community.

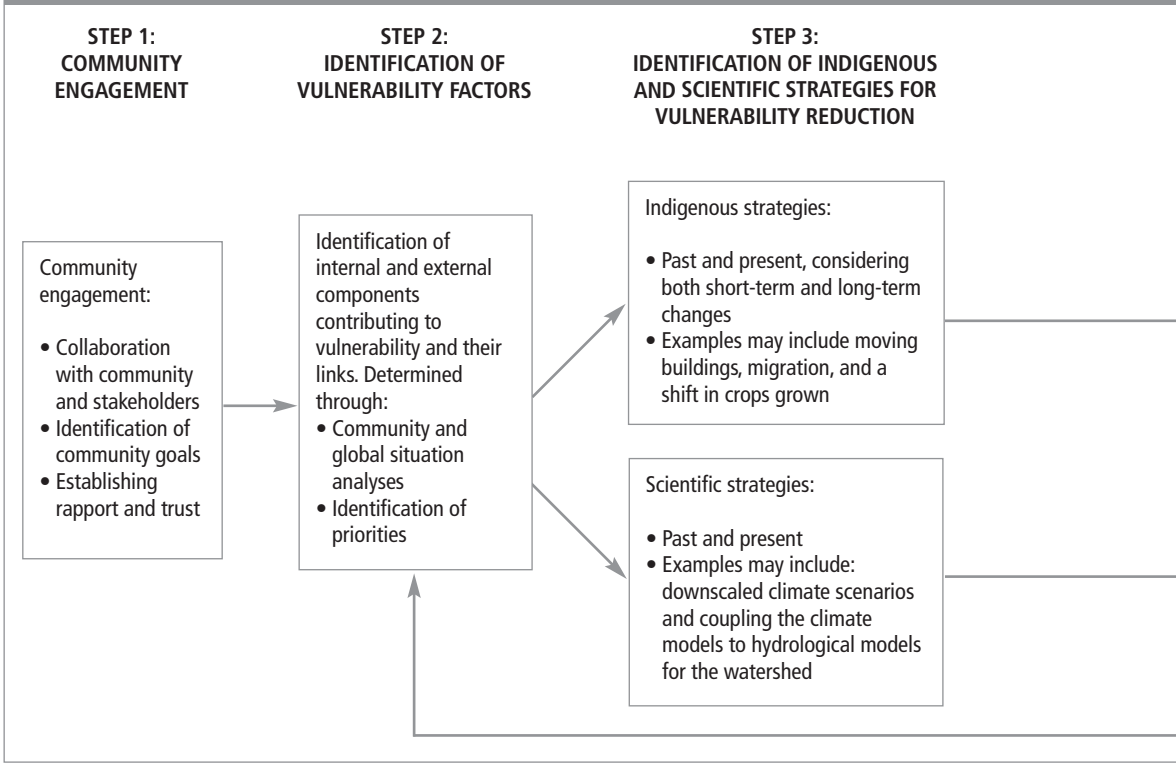
Rather than separating internal and external factors as mutually exclusive categories, climate change reveals overlaps, as shown above for Singas and Kumalu. Including climate change suggests that contingency and flexibility, rather than fixed strategies or rigid goals, should be considered for flood risk reduction.

Step three

When identifying indigenous strategies for reducing vulnerability to both environmental hazards and climate change, the focus should be on determining how people have responded to longer-term changes in the past. Examples of past responses that might be applicable under current local realities, as well as under projected future changes, can be found within building construction methods: building homes on stilts to avoid flooding as undertaken in Singas and the construc-

[3] See e.g. www.climatefrontlines.org

Figure 8: The revised process framework, for introducing and addressing climate change



Source: Mercer *et al.* (2009b) with some text adjusted.

tion of steeply sloped roofs to avoid fire risk from volcanic ash and to ensure runoff during heavy rainfall as in Baliau.

One part of identifying scientific strategies should be requesting data that the community decides might be useful for long-term planning. Examples are downscaled climate scenarios or regularly updated remote sensed observations. This information could enable communities to prepare in advance, through for example identifying appropriate crops to plant given the expected conditions, identifying appropriate areas for gardens, and adjusting the agricultural growth cycle accordingly.

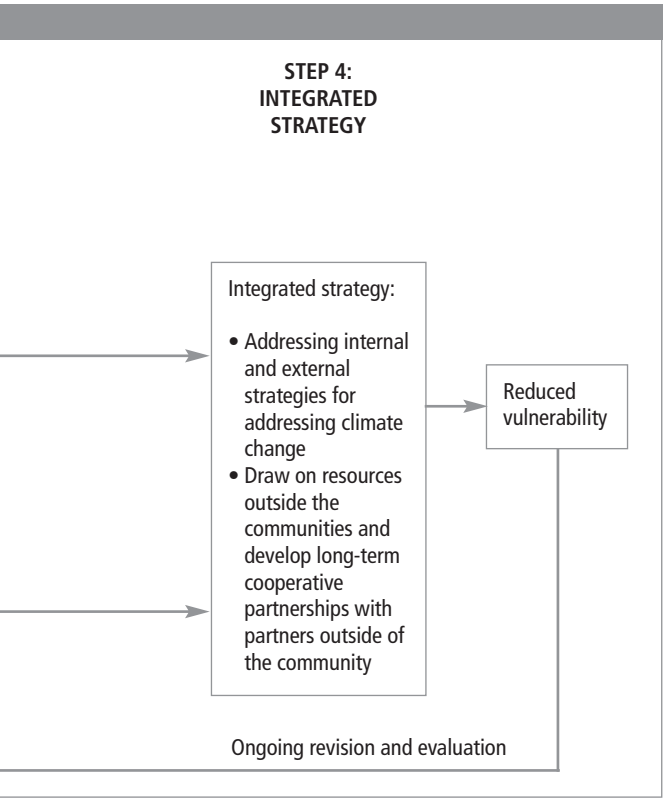
Step four

Strategies should include measures for addressing climate change, especially beyond already experienced environmental hazards. One example is the potential for invasive species that could change the pest or disease profile of local agricultural systems. Partners outside the community may be needed to incorporate external scientific knowledge about climatology and ecology.

As another example of a potential strategy, MSV provides cases of indigenous SIDS peoples gaining capacity for dealing with climate change in international fora, such as the Conference of Parties (COP) negotiations. Additionally, PNG is not currently on the United Nations' list of Least Developed Countries (LDCs), but it could nonetheless be useful to consider pursuing a National Adaptation Programme of Action for climate change, as completed by other SIDS that are LDCs, or to undertake a similar process such as the Government of St. Lucia (2003) has done.[4]

As such, the community could identify

[4] See: http://unfccc.int/national_reports/napa/items/2719.php



strategies for addressing climate change that go beyond the local level. The framework explicitly permits different levels of action that may be needed (e.g. local, district, national, international) while permitting and identifying links amongst those different levels.

Main lessons

The lesson to highlight from this work is the framework's ability to relate local and global topics, especially by combining community knowledge and experiences with external scientific information and approaches. Two main points are detailed here for emphasis when applying the framework for climate change, based on experience with the disaster risk reduction framework (Mercer *et al*., 2009a, b).

First, by identifying community goals and priorities, and by connecting these to local and global situation analyses, climate change adaptation and disaster risk reduction are supported simultaneously. The focus is on the community's needs, not on climate change or disaster risk reduction as the starting point. For example, all three villages in PNG identified increased vegetation burning as being a land use change that might exacerbate floods and erosion. The framework helps to consider how land use has changed, affecting community vulnerability, over past decades. By considering indigenous and non-indigenous strategies that improve land use and that reduce burning, flood and erosion vulnerability is reduced, irrespective of climate change affecting those hazards. The communities identified land use challenges and improvements, automatically supporting climate change adaptation and disaster risk reduction simultaneously.

The second point, emphasised in MSV, is that climate change and disaster risk reduction should be integrated within wider development contexts. The three PNG villages exemplify development challenges faced by many SIDS communities, irrespective of climate change. Meanwhile, through MSV, SIDS peoples express a need for climate change research, policy, and action that acknowledges wider development contexts.

One possible idea to explore with caution for the PNG villages, based on the experience there, could be reversing land use changes to reduce flood and erosion risk by expanding the crop profile. Crops could include local species with multiple uses, covering combinations of erosion prevention, building materials, edibility, and livestock fodder. The potential could be explored for growing small amounts of crops for selling and trading alongside food crops. That could supplement income while maintaining sufficient diversity in case of shifts in external markets and/or environmental conditions.

If such livelihood adjustments were deemed to be appropriate, and if they were accompanied by locally sensitive support from external partners, the changes could

potentially bring livelihood benefits while reducing vulnerability. Indigenous knowledge would be needed regarding appropriate cropping patterns and land use. Non-indigenous local knowledge could assist in identifying suitable crops that might not have been grown before in the community. External scientific knowledge might help in identifying potential climate scenarios.

Caution is essential before implementation in order to fully analyse the potential positive and negative consequences. The uncertainties in future climate and market analyses must be weighed carefully against analysis of who may win and lose, in the short-term and long-term, when livelihood and land use systems are adjusted. For instance, the introduction of cash cropping for coffee in Kumalu in 1954 was identified by the community as leading to later vulnerability.

This example highlights the challenges of ensuring that climate change concerns are addressed without causing or exacerbating other problems. MSV highlights SIDS community concerns that climate change is only one of many major topics to be considered, with others being livelihoods and disaster risk reduction. The framework enables communities to find solutions for adjusting and expanding livelihoods to tackle many challenges simultaneously.

Conclusion

The revised framework has the potential to demonstrate the usefulness of combining disaster risk reduction and climate change (see also Kelman and Gaillard, 2008). Key commonalities between the original and revised frameworks are:

- the four-step structure;
- community members identifying factors that should be addressed to reduce vulnerability; and
- the strategies combining indigenous and external scientific knowledge.

Key differences are highlighted by Figures 2 and 8.

An important strength of the framework is recognising indigenous and external scientific knowledge as resources upon which to build successful local strategies for vulnerability reduction. The 'guided discovery' method adheres to principles within both disaster risk reduction and climate change endeavours, providing step-by-step guidelines for working with a community to move away from solely top-down approaches. In describing the framework and suggesting its application, though, this paper does not analyse the new framework's implementation or evaluation.

The main expected outcome of implementing the revised framework is reduced community vulnerability through considering disaster risk reduction and climate change simultaneously. Both entail explicitly recognising and acting on immediate and long-term challenges. A second outcome is establishing long-term cooperative partnerships between communities and collaborators outside the community at regional, national, and international levels. Those partnerships would be for exchanging and applying local and scientific knowledge and expertise to design vulnerability reduction strategies that are locally contextual without neglecting wider contexts.

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Children's participation in community-based disaster risk reduction and adaptation to climate change

3

by THOMAS TANNER, MERCEDES GARCIA, JIMENA LAZCANO, FATIMA MOLINA, GRACE MOLINA, GONZALO RODRIGUEZ, BALTZ TRIBUNALO, and FRAN SEBALLOS

Introduction

I am worried for the future generation for they might only see mangroves in the books and that is what I fear will happen.
Youth group member, Camotes, Philippines

In the face of increasing disaster events and the ongoing and future impacts of global climate change, a growing body of work is emerging around community-based responses to preventing disasters and adapting to a changing climate (known as 'adaptation'). Initially, adaptation interventions were commonly considered through top-down assessments, with scientific models projecting future change so that planning decisions and policy could be made accordingly. Recognising that individuals and communities have been adapting to changing climates for many years, community-based approaches to adaptation and the related field of disaster risk reduction (DRR) have emerged since 2005. These respond to the realities of climate-related impacts, which are adversely affecting people's livelihoods, particularly in poorer communities in developing countries.

As an emerging field, reflection and learning on adaptation and disaster risk reduction (DRR) are crucial. However, there is a danger that a focus on 'the community' fails to look within and understand the community itself. Children under 18 are often considered the vulnerable, passive victims of disaster events and in need of protection by parents and adults in the community, who in turn make decisions and take actions on their behalf. Yet children have unique perceptions of the world in which they live, and they have the capacity to act as agents of change.

In this article, we argue that widening community participation to include children is crucial for successfully tackling development issues in a changing climate.[1]

[1] We use the term 'children' here because the research has focused primarily on participants under 18 years of age, including those as young as three. During the research process, the term 'youth' is also used for teenage participants.

Table 1: Child-led adaptation and DRR action research locations

Country	Region	Community
El Salvador	Chalatenango	El Coyolar, El Pepetón, La Montañona, Los Prados, Potrerillos
	La Libertad	Alvarez, El Matazano 1, San Isidro
	San Salvador	El Cipres II, Palo Grande
Philippines	Camotes	Lower Poblacion, Villa Hermosa, Teguis
	Eastern Samar	Cadian, Caga-ut, Barobo
	Southern Leyte	Catig, Guinsaugon, Pinut-an
	Rizal	Banaba

We show how child-friendly participatory methodologies and processes can enable children to take an active role in communicating their perspectives to other members of the community, tackling climate change impacts, and preventing disasters.

Aims, location, and participants

The participatory action research presented here seeks to understand how children in developing countries can take action within their communities to prevent disasters and adapt to climate change. We worked with child-led development projects being implemented by Plan International in El Salvador and the Philippines.[2] These countries are among the most disaster-prone in the world, with hazard burdens in many areas compounded by a high incidence of poverty and dependence on climate-sensitive natural resources. Plan's DRR programme was stimulated by both experiences of disaster impacts on children and communities, and the potential for child-led initiatives demonstrated by children's groups in these areas.

The research links with these ongoing development projects to investigate how children perceive risks and how they communicate these risks and take action. Children's groups are actively engaged with the research process, including reflecting on design, methods, results, and analysis. Research ethics are a central consideration, particularly regarding processes for informed consent and child protection.[3] The continuing engagement of development agencies will ensure continuity, space for discussion, and support for initiatives once researchers have left the communities.

The central actors in the process, which is ongoing in 20 communities in El Salvador and Philippines (see Table 1), are children and children's groups, although the research process also works with adults in communities and in related institutions.

Research process and methods

The research aims to both foster and study the dynamics of children's participation in community development. In linking with ongoing Plan projects, the research process has been able provide an avenue for reflec-

[2] The ongoing work is being led by the Institute of Development Studies (IDS), UK, in partnership with the University of El Salvador, the Center for Disaster Preparedness (CDP), Plan El Salvador, and Plan Philippines. The research is funded by Plan International and the UK Economic and Social Research Council (ESRC) until October 2010.

[3] Research ethics are carefully considered for this work, including processes of informed consent from children, parents/guardians and teachers, careful explanation of the voluntary nature of the work, the right to non-participation in any activity, strict checks and protocols on child protection, and guaranteed anonymity in data, analysis, and outputs.

tion and learning in both the communities and Plan offices alike. Researchers work alongside Plan staff members, who have a long-term engagement in the case study communities, providing both greater rapport with the children and longer-term sustainability of the action research process.[4] To allow a comparative perspective, the research engaged children's groups at different stages of engagement in the Plan disaster risk reduction and adaptation projects, including those who had not yet participated.

In the field, children are first introduced to the researchers and the research aims using simple icebreaker techniques. Following consent from parents and teachers, the children are asked for their informed consent to participate in the process, and encouraged to leave if they are not enjoying it ('methods should be fun' was the motto). Research methods were piloted in an early phase of the research to develop a toolkit of approaches that are both culturally appropriate and enjoyable. These include established activities for vulnerability and capacity assessment such as hazard identification and ranking grids, mapping vulnerabilities and capacities in the community, stakeholder analysis and mapping, group timelines, guided walks, and poems. However, many of these were modified for use with children. The research also developed hybrid methods to capture risk perception, risk communication, and action. These included short video 'adverts' for adaptation and risk reduction projects, poems and songs, acting out hazards and risks *in situ*, drawings to represent motivations for participation, information and message flow diagrams, and local games used to differentiate group characteristics or opinions (see Molina, Molina, and Tanner in the Tips for Trainers section of this issue for descriptions of some of these methods, and how established methods were modified for use with children).

Semi-structured interviews were carried out with children in leadership positions and with small friendship groups, as well as with groups of adults from the community including local disaster management committees, officials and parents, governmental entities (local government, ministries of education and health), and NGOs in the area. In both adult- and child-oriented research, groups were separated by age and by gender where possible.

Research highlights to date: key messages

Although ongoing, the research is revealing important insights for the policy and practice of climate adaptation and disaster risk reduction (DRR) at community level. It shows that children and young people can participate in climate change and DRR activities in a number of different ways:

- as **analysers** of risk and risk reduction activities;
- as **designers** and **implementers** of projects;
- as **communicators** of risks and risk management options (especially communications to parents, other adults, or those outside the community);
- as **mobilisers** of resources and people; and
- as **constructors** of social networks and capital.

The conditions for such participation are varied, but the research is investigating how the nature and mode of participation is influenced by a combination of community and institutional dynamics, livelihoods strategies and living standards, and cultural factors, as well as the hazard burden facing the communities.

Children can conceptualise and analyse the risks affecting their lives

The research demonstrates first and foremost that children represent more than

[4] The researchers are aware of the contradiction in using participatory research tools for processes that remain largely extractive. This is why they are working through the ongoing child-led community-based development programmes of Plan International.

Table 2: Risks identified by children during research in Palo Grande, El Salvador	
Natural hazards	Hurricanes, earthquakes, windstorms, droughts, heavy rains, falling trees, rivers and gorges, rockfalls, landslides.
Human-induced risks	Electricity posts, retention walls, poorly maintained housing, houses near ravines, burning waste, contaminated waste, winding and steep roads, rainy season water ponding, houses located in landslide/rockfall zones.
Social risks	Speeding traffic on the main road through the community, gangs, drug and alcohol abuse, poverty, delinquency, unemployment.

simply a passive, vulnerable group in society who require protection through decisions made by adults. Rather, they hold a valuable understanding of the risks facing their lives, not only those related to natural hazards but also human-induced risks, and societal risks (Table 2). This suggests that interventions that focus on climate-related risks alone are unlikely to reflect community perceptions or priorities.

Risk perceptions are related to the lived experience of individuals as well as the socio-economic and geographic context within which they are situated, and reflect combinations of age, gender, educational attainment, and occupation. Table 3 shows how perceptions of types of hazard and risk types in the Philippines were linked to gender and age differences.

Similarly, motivations for participation in group activities also showed marked gender differences. In El Salvador, for example, both genders (46% of females and 57% of males) stated learning as their main motivation. However, girls' motivations are more likely to concern others

Table 3: Gender and age differences in risk perceptions in the Philippines	
Hazard/risk type	**Identified predominantly by which age/gender group**
'Natural disasters'	All (based on personal experience) although 'extreme weather' is dominant among children as it prevents access to school or play.
Food and financial crisis	Adults, as providers for the family (women, as household budget managers, stressed commodity prices).
Unemployment/livelihood opportunities	Adults.
Agricultural hazards such as pests and drought	Men, as farmers.
Social hazards (gambling, drugs, community conflict)	Women and children as witnesses of male perpetrators, and sometimes as victims of drunken behaviour (wives).
Health and disease	Women and children (community health workers and mothers, and those who are susceptible).
Environmentally unsound livelihood practices	Mainly children, due to school-based learning. Although women are often aware too, men focus on meeting immediate needs of the family e.g. food, school allowance.
Poor waste management	Mainly children, primarily due to school-based learning and Plan training.
Global environmental problems	Children, primarily due to school-based learning.

Box 1: School safety mini-projects in El Salvador

In the community of Potrerillos in Chalatenango Department, El Salvador, analysis and prioritisation by a children's group pinpointed risk to children from a ravine neighbouring the school. Enlisting the help of other community members, they led a process to create a supporting wall at the rear of the school and the construction of a concrete platform to stabilise the grounds and create a safe area which is now used for recreational activities.

Children mixing cement for school retaining wall, Potrerillos, El Salvador.

Photo: Thomas Tanner

Box 2: Child-led mangrove restoration projects in the Philippines

Child-led mangrove restoration project, Camotes Islands, Philippines.

Photo: Thomas Tanner

Children in community groups in Teguis, on the Camotes Islands of the Philippines, have worked together to restore degraded mangrove ecosystems by assembling teams to collect and replant saplings in sanctuaries behind protective barriers. The groups combined knowledge from a range of sources including school textbooks, training sessions, discussion with parents, and the media. In doing so they identified the multiple benefits of restoration, including livelihoods gains through the provision of spawning grounds, biodiversity gains, disaster protection from typhoon winds and surges, adaptation to climate change impacts, and the removal of atmospheric greenhouse gases causing climate change. Notably, in the mangrove planting it is usually the girls who participate as the boys often go fishing with the fathers.

rather than the 'self', including helping other people and teamwork. Boys were more likely to be motivated by activities which benefit them as individuals, such as having fun and making new friends. Other reasons for participating included the exchange of experiences, protecting the environment, and the support of the group.

Children can be the agents of change to tackle disasters and climate change

In many of the study communities, children were already taking community-based action to reduce disaster risks. In some cases this was explicitly linked to adapting to the changing climate. In some areas, Plan support had enabled the development of

Box 3: Mobilisation during emergencies in El Ciprés

During Hurricane Stan in 2005, the Youth Emergency Committee facilitated the process of evacuating seven families whose houses were at risk of collapsing. They established and managed an emergency camp in the community's school building, and grouped together to request support from the mayor's office and other institutions, constructing a support network for the affected families until they were donated safer and stronger houses several months later.

Their actions gained the Youth Group strong recognition within the community. They continue to work on community projects, supported by NGOs, and the Community Development Association, which legally represents the community to the mayor's office, has recognised their role and is looking to include them in the future.

Members of the Youth Emergency Committee in El Ciprés, El Salvador.

Photo: Jimena Lazcano

mini-projects conceived, managed, and implemented by the children's groups, based on risks prioritised during vulnerability and capacity assessments.

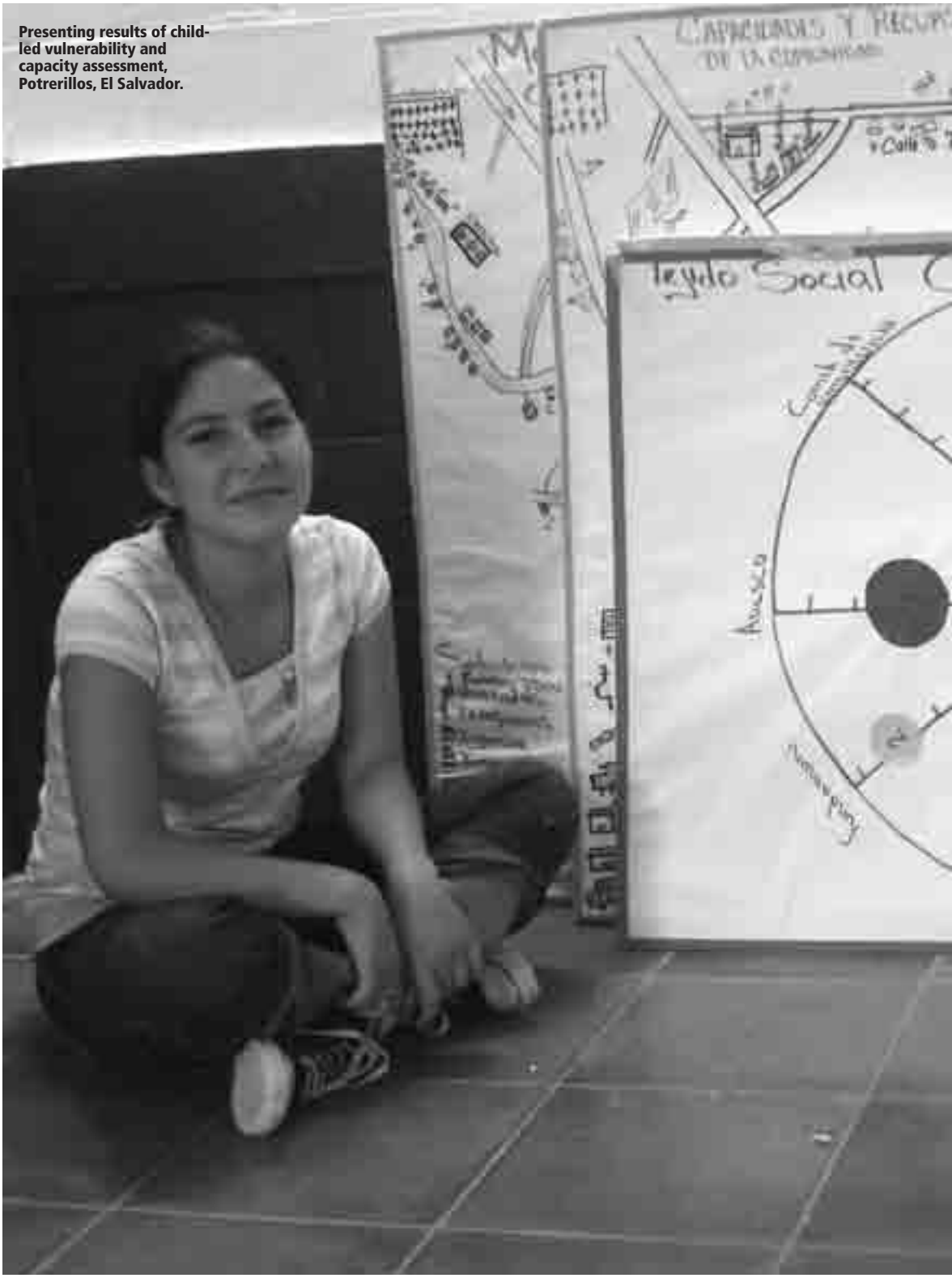
Community-based projects have demonstrated children's ability to work together to tackle problems (Boxes 1, 2 and 3). They have given the participants valuable experiences in group decision-making, teamwork, project management, financial accounting, and dissemination. They also create an awareness locally of children as agents of change, often stimulating support and cooperation from adults within the community.

In El Salvador, researchers found that younger children tend to work more on preventative measures, passing on information and understanding from training received from outside agencies to others. Older children have been able to further develop guidance from Plan training events and have taken the initiative in developing actions to mitigate risks, such as building live barriers, improving waste disposal containers, and trimming trees.

Children can act as risk communicators to others in the community

> *Children have voice – they are not just passive listeners, they can speak of the real situation. I can attest to that since during the death of my grandmother, I was able to share what I've learnt about disaster risk reduction and climate change adaptation to my cousins, grandparents, and other relatives.*
> **Member, Young Environmental Guardians of Poro, Camotes Islands, Philippines**

Our research suggests that children can play an important role in communicating about risk and climate change within and beyond



Presenting results of child-led vulnerability and capacity assessment, Potrerillos, El Salvador.

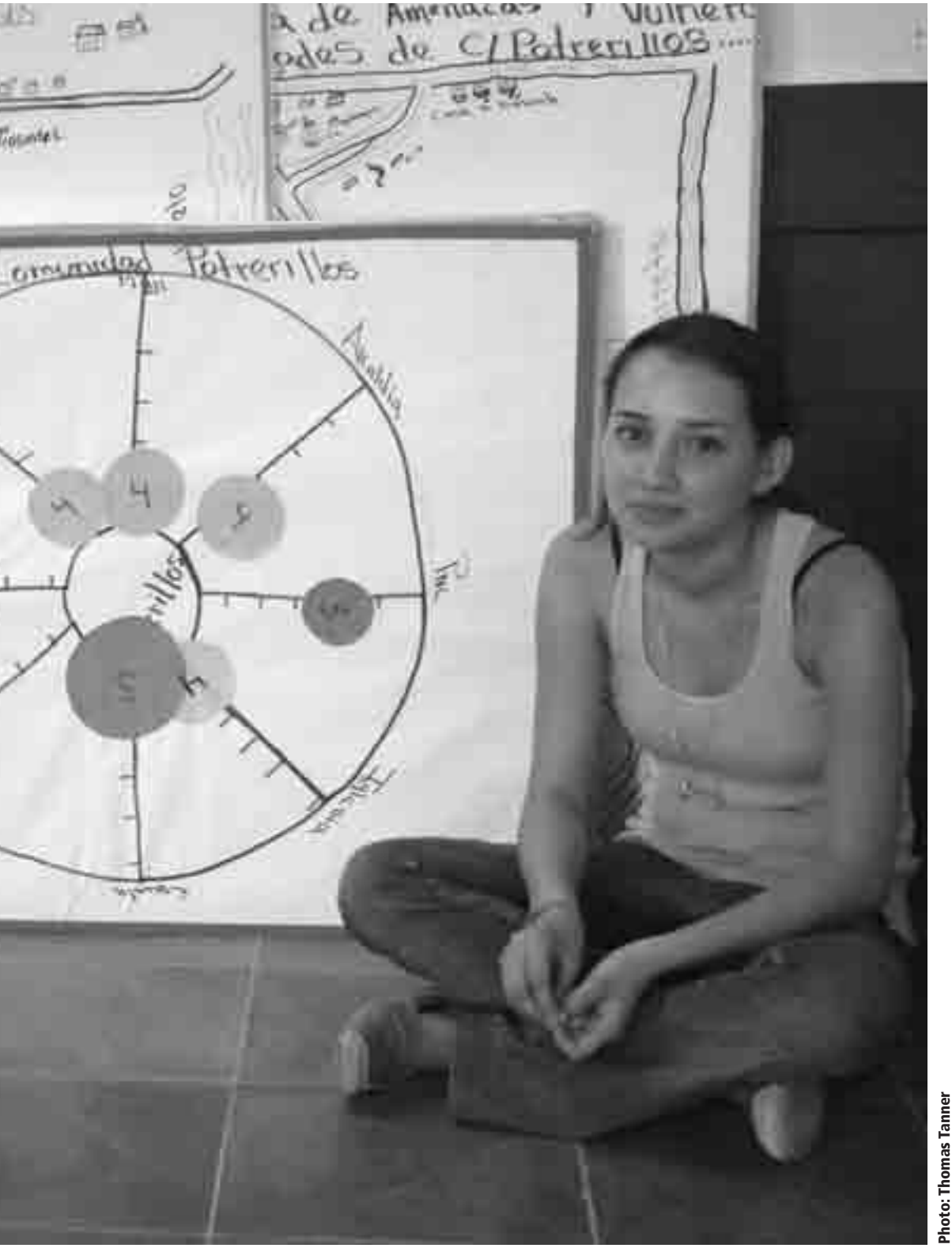


Photo: Thomas Tanner

Box 4: Communicating risks and responses through child-led theatre in the Rizal, Philippines

Communicating risk through children's theatre in the Philippines.

Photo: Grace Molina

Buklod ng Kabataan (Children Bonded Together), a group of children and youth in Banaba, has become an effective advocate of DRR and adaptation through theatre performances. Using singing, dancing, and acting, they communicated their perceptions of local hazards such as flooding and river bank erosion, and the potentially destructive impacts of these hazards on people's livelihoods, properties, and lives. The group also became dynamic communicators of risk reduction activities such as tree planting and solid waste management which can achieve a cleaner environment, fresh air, stabilise river banks and reduce river pollution, and reduce health risks. Through their advocacy, different sectors of the community and stakeholders up to the national scale were encouraged to take action.

the community (Box 4). Children conceptualise and understand risks in their own terms, often relating hazards and factors driving vulnerability to their own experiences (such as localised landslides, polluted watercourses, or dangerous roads). They combine their own understanding with technical information gained from external information sources such as the media, school curricula, and training sessions. Children's understanding of the implications of wider-scale processes, such as global climate change, for local livelihoods is often more advanced than that of adults.

Children's groups can effectively mobilise people

In the Philippines, child-led mobilisation around environmental issues such as mining in Eastern Samar (see Box 5) and relocation of schools away from disaster zones in communities neighbouring Guinsaugon, Southern Leyte demonstrate the potential of children's groups to mobilise others. Drawing in other members of the community and developing social networks, they have mobilised constituencies behind key issues affecting their communities.

Box 5: Child-led anti-mining advocacy in Eastern Samar, Philippines

Photo: Grace Molina

Participatory video shoot on chromite mining activity at Caga-ut, Eastern Samar, Philippines.

Children in the community of Caga-ut in Eastern Samar, the Philippines have been communicating a range of environmental, economic, and social risks posed by chromite mining to a wide audience. Children directly targeted miners, operators, and those licensing the mining, communicating their concerns through meetings and dialogue. Alongside this they have led dialogue with family, resident miners, and community members about the risks posed by the mining activities to present and future generations.

Future challenges: bringing children to the fore in community-based adaptation and DRR

The research highlights the potential of putting children at the heart of community-based efforts to tackle climate change impacts. They form a central part of the community yet their potential as agents of change has been largely overlooked by community-based adaptation programmes. As the generation inheriting climate impacts, they have a right to be included in decision-making affecting their future. This research demonstrates that this moral imperative is reinforced by their demonstrated ability to conceptualise, analyse, communicate, and take action to improve their current and future wellbeing in a changing climate.

Scaling up the participation of children in DRR and adaptation requires enhanced efforts to incorporate children's perspectives, knowledge, and potential for action into regular community-driven development programmes. Some of the participatory methods we share here and later in this issue will facilitate this. However, scaling up also requires advocacy outside of communities to raise awareness of children's contribution and to bring about policy changes that enable children to participate in community DRR and adaptation processes.

The research also contributes to a growing awareness of the need to differentiate DRR and adaptation activities and

processes by different groups within communities (Tanner and Mitchell, 2008). Within children's groups there are differences in perceptions of risks and prioritisation of adaptation and risk reduction actions, depending on age and gender. There may also be differences between, for example, children not participating in schools or in established groups and those who do participate. At the same time, a holistic vision for child-led adaptation and DRR is required that includes both adults and children to provide wider and more consensual support for actions at the community level.

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FURTHER INFORMATION
For further information about work on children, disaster risk reduction, and climate change adaptation please visit: www.childreninachangingclimate.org. Children in a Changing Climate is a global action-research, advocacy, and learning programme, bringing together leading research and development organisations with a commitment to share knowledge, coordinate activities, and work with children as protagonists with a voice needing to be heard.

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Katalysis: helping Andean farmers adapt to climate change

4

by STEPHEN SHERWOOD and JEFFERY BENTLEY

Introduction

The Andes have daily (rather than seasonal) temperature extremes, unpredictable weather from one year to the next, and a myriad of environmental niches scattered across the elevations. To survive in such an adverse environment, highland farming evolved to be robust, with complex soil and water management, a rich diversity of crops and varieties, and planting schemes adapted to altitude. Much of the work is done through collective labour and sharecropping. Spanish colonialism and then the market-orientation of the last century privileged distant consumer demands and external knowledge and technology. As a result, local knowledge and practice have been largely supplanted, and agriculture is based on fewer crops and varieties and less sophisticated planting schemes. In addition, the arrival of industrial-era technology, such as mechanised tillage and agrochemicals, commonly has led to the degradation of soil, water, and biological resources. Climate change is likely to aggravate greatly this already precarious situation.

Recent studies of global climate change paint a bleak picture for the Andes. The UN's Inter-governmental Panel on Climate Change (IPCC) has shortened previous predictions for the melting of Andean glaciers from 30 to 15 years. Droughts and flooding will become more common in the region, as will wind and cyclones, disease and pests, soil erosion, and losses of soil organic matter. Stream flow will decrease.

Researchers have proposed expert-led solutions, such as improved climatic modelling and forecasting, and the breeding of drought-tolerant crop varieties. Climate models are most useful for determining large-scale mean temperatures over relatively uniform geographies – not the Andes! General forecasts are of little help to farmers who are more interested in local, short-term predictions, especially of rainfall. For these sorts of predictions, rural people are often at least as accurate as meteorologists (Orlove *et al.*, 2002). Instead, mountain people need greater ability to cope with weather fluctuations.

Photo: Stephen Sherwood

Figure 1: Ambuqui watershed in northern Ecuador, 2000 to 3100 metres above sea level.

Drought-tolerant varieties may be important in some regions, but in the Andes, traditional crops and potato varieties are already adapted to a much wider range of altitudes than previously suspected (de Haan, 2009). Maintaining the varieties that farmers have and love may be as important as breeding new ones.

We believe that farmers need to shape the research agenda according to local priorities, and that smallholders and researchers should learn together. These are the aims of the Katalysis approach to climate change adaptation described in this paper.

Katalysis: an experiential learning-action approach

Piloting the Katalysis approach

During 2005 and 2006, with a grant of US$60,000 from the Challenge Program on Water and Food, World Neighbors worked with several partner organisations, especially the Ecuadorian Network for Community-based Natural Resource Management (MACRENA) and the Bolivian Programme for Integrated Development of Potosí (PRODINPO).[1] The work involved communities in intensive, locally led learning-action on climate change and resilience, including process design, curriculum development, and subsequent follow-up visits to document learning and innovations. We named the approach 'Katalysis' because of the catalytic changes it inspired. The pilot project worked at two highland locations in Bolivia and Ecuador, in the poorest regions of the Andes (Figures 1 and 2). Both sites are semi-arid, with marked dry seasons and average yearly rainfall of between 300 and 600 mm.

[1] See www.waterandfood.org

Photo: Stephen Sherwood

Figure 2: San Pedro watershed in northern Potosí, Bolivia, 2000 to 4000 metres above sea level.

During the pilot period we worked with 107 families, selected according to criteria established during community meetings. Partners subsequently incorporated parts of the approach at new sites in Bolivia (Potosí), Peru (Apurímac), and Ecuador (Imbabura and Pichincha), enabling Katalysis to reach over 500 families.

Katalysis builds on the 'discovery learning' tradition of Farmer Field Schools (FFS), in which farmers share their experience, strengthen their ecological literacy through learning experiments, and identify ways of improving agriculture through group problem-solving (Box 1).

In Katalysis the focus is on enhancing local knowledge of climate change and creating opportunities for coping with it. Katalysis starts with the experience and priorities of participants (usually married couples). Through problem-solving and action around priority interests, the focus shifts from concerns at the individual farm

Box 1: The educational roots of Katalysis: Farmer Field Schools

Katalysis emerged from Farmer Field Schools (FFS) in South-East Asia and more recently the Andes (Pumisacho and Sherwood, 2005). Field Schools involve about 25 farmers who manage learning plots. Groups focus on Integrated Pest Management (IPM), meeting weekly to conduct agroecological analyses and run experiments, such as insect zoos to learn about the life cycles of pests. Through joint learning on potato IPM, Andean farmers were able to reduce their reliance on agrochemicals, saving money, time, and avoiding harm to their families and the environment.

In practice, the FFS method has broadened beyond IPM to a more holistic focus on plant and soil health. Over time, FFS participants fill knowledge gaps that prevent them from innovating, and discover new ways to improve their agriculture. FFS ultimately aspires to catalyse the innovative capacity of farmers.

Figure 3: Katalysis involves farmers in self-directed learning about climate change

level to those at community and watershed level (Figure 3).

The Katalysis process

In each location, we convened communities and asked them to select a group of about 20 farmers willing to meet every two weeks for six months for co-learning and action on climate change. Learning methods included cross-learning between families, visits to local farmers who are particularly innovative, discovery-based learning, and farmer-led experimentation.

Visits to local innovators

Early on we seek to inspire participants through a learning tour of outstanding local innovators, to see new possibilities. For example, in Ambuqui we visited the farm of two graduates from our first cycle, Alfonso and Olga Juma, who through improving their management of organic matter and mulching and by making a relatively small investment in tubing, a filter, drip tape, and the creative use of plants and animals, transformed their farm from a 'desert wasteland' into an 'oasis' in just 18 months. As don Alfonso said:

> *Once I learnt where the water was, I could grow that small plot of alfalfa. With the alfalfa, I could have cuy [guinea pig]. The cuy produced manure for my soil. We still have a long way to go, but with just the cuyes, we have already paid back our $200 investment in materials. When I started we had no cuy. Today we have 300 cuyes that are worth about $5.00 each or $1,500 in all. That is much more than I used to earn in the city. Now I can stay home with my family. With the manure, I've planted 75 mango and avocado trees. My farm has become an oasis. Every year it will grow greener and greener. My farm used to be barren of plants. My biggest problem today is that I've run out of land to plant.*

Recently Alfonso and Olga bought two more hectares of neighbouring land. Katal-

Photo: Stephen Sherwood

Figure 4: Margoth presents her 'map of dreams' – her project to transform her farm through water harvesting.

ysis has helped dozens of families generate such locally financed transformations.

Dream maps

After learning visits, we asked participants to identify their goals for the future through a 'dream map', which was then presented to their colleagues for comments and advice (Figure 4). The group then organised to help each participant advance towards his or her dreams.

Co-learning about climate change

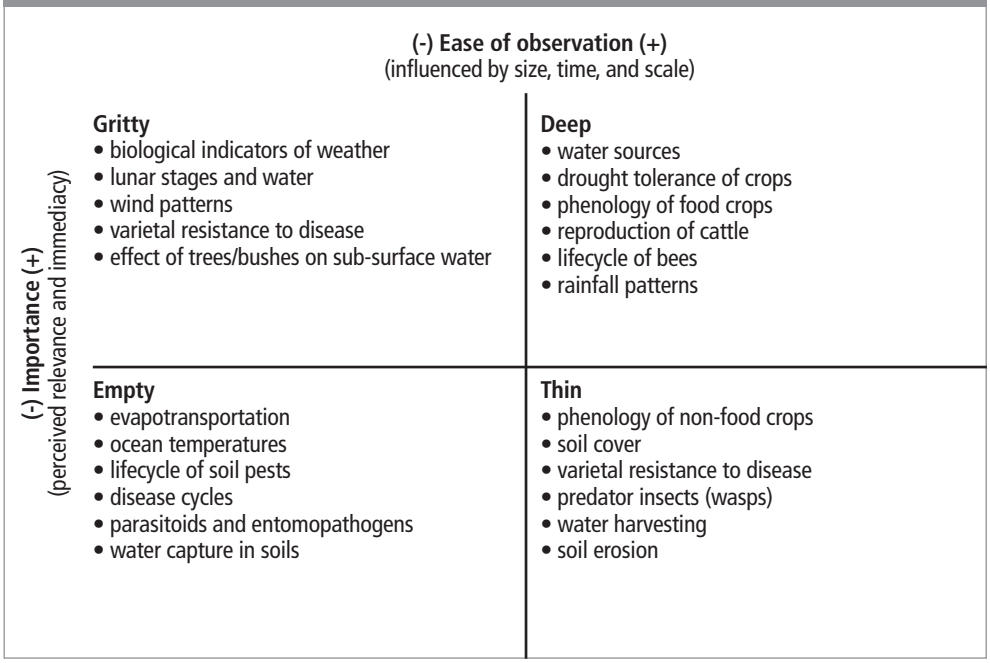
We adapted a participatory method developed by the organisation Agrecol-Andes to study local indicators of climate.[2] Through field visits and interactive workshops, participants explained how they 'read' wind patterns, cloud formations, the position of rainbows, the resolution of stars, and animal behaviour (e.g. where foxes deposited their faeces, location of terrestrial bird eggs, or the migration patterns of different animals) to predict the coming season.

We found that 'ease of observation' and 'perceived relevance' influenced local knowledge on climate (Figure 5). Knowledge was 'deepest' for topics that were both important to local people and easy for them to observe. This included local weather prediction – will the rains come early or will this be a cold or warm year? Local knowledge was largely missing for topics that were both difficult to observe and of low perceived importance. For example, highland farmers knew little about sea surface temperatures and their relationship to local weather patterns. There usually were no local explanations for such topics.

Our priority was practicality, so we focused attention on helping people to overcome weaknesses in their knowledge. This involved introducing new tools of

[2] See www.agrecolandes.org

Figure 5: Strengths and weaknesses of rural technical knowledge associated with climate and agriculture (based on Bentley, 1991)



observation and information, e.g. simple weather stations or rainfall data that could reveal historical weather trends.

Co-learning about water management

It soon became clear in both Bolivia and Ecuador that water management was central for learning how to cope with climate change. Communities were suffering from both drought and floods at different times of year. The real challenge was better water management to help cope with drought and prevent flooding and erosion of soils during heavy rains. With our partners, we developed over 30 activities for discovery learning on four water management-related themes: water and the home; water on the farm; watershed and the community; and water and the world and global warming.

We started with activities to help people see the value of the rain that fell on their fields, homes, and roadways, which just drained away. For example, we measured the runoff of an ordinary rooftop, which amounted to thousands of litres of water each rainfall. Then, we valued it, applying the local market price for bottled water (which in the Andes, is commonly more expensive than gasoline!). Participants learnt that they give away tens of thousands of dollars of water each year.

We then explored ways of storing water. Participants often want to invest in expensive water storage tanks, but we introduced learning experiments on less costly alternatives, such as the holding capacity of soil organic matter (SOM). By weighing socks filled with organic matter before and after immersing them in a bucket of water, farmers learnt that their fields hold millions of litres of water and that increasing SOM by 1% across a hectare could capture an additional 100,000 litres each rainfall. Participants then identified many ways of increasing the organic matter in soil to capture water, e.g. incorporating crop residues, applying manure, reducing tillage, dead and live barriers, conservation ditches, and covering the soil through

Photo: Stephen Sherwood

Figure 6: New appreciation for the water-holding capacity of soils has led to heightened interest in cover crops.

Photo: Stephen Sherwood

Figure 7: A *minga* or work party helps a colleague install his first geomembrane tank.

mulches and cover crops. After evaluating options, the farmers found that cover crops were the most cost-effective way of increasing SOM (Figure 6).

Farmers also conducted studies on alternative types of irrigation, comparing canal irrigation, tubing, sprinklers, and drip tapes. Though more expensive, drip tapes were found to be 20 times more efficient than sprinklers, which led one participant to conclude, 'A farmer can either build his tank 20 times as large or use drip tapes'.

Individual and collective action

Over time, the priority of Katalysis has shifted from individual to collective action. Each individual took responsibility for collecting weather data, which was integrated into a report and discussions on local weather patterns. Some groups decided to organise to measure the flow of different streams in relation to rainfall across the year. We held *mingas* (group work parties), during which participants worked together to design and install innovations such as soil conservation and water catchments on different farms (Figure 7). This usually included a training visit from a more experienced farmer to guide the activity. We then supported follow-up visits across farms to document and discuss innovations at community or watershed level, such as controlling goats and cattle, the reforestation of a vulnerable hillside, or planting a windbreak.

As in the example of Alfonso and Olga Juma, early successes built self-confidence in participants, stimulating enthusiasm and creative ideas. Participants began more sophisticated activities and more ambitious tasks. For example, four communities living on the Ilalo Volcano in northern Ecuador began by addressing a priority agenda around soil conservation and water harvesting for home consumption and gardens. Through group learning, cross-visits, and *mingas*, participants met

Photo: Stephen Sherwood

Figure 8: Three-dimensional map of watershed, Ilalo Volcano, northern Ecuador.

one another and built friendships. This led to a more ambitious agenda. They created a three-dimensional map of their watershed, which identified water sources, vulnerable areas, and conflict zones (Figure 8).

Subsequent field studies and discussions led to a management plan, which the communities then turned into a project proposal that was later funded by the municipality.

Other groups have created their own savings and loan funds to help finance investments in purchasing fencing materials to control animals, local weather stations, and water harvesting tanks or micro-irrigation technology.

Why Katalysis works

It is too early to think about long-term impacts of Katalysis, but we feel its successes so far are due to the following:

• Draws on time-proven approaches, such as 'farmer-to-farmer' (see Bunch, 1982 and Holt-Gimenez, 2006) and FFS (see van den Berg and Jiggins, 2007).

• Adds value to farming experience in communities, drawing on the experiences of both wealthier and poorer smallholders, and involves families rather than individuals to address gender concerns.

• Gives participants control over a flexible curriculum co-designed by the group and the facilitator.

• Focuses on technologies already in use by local farmers. Sometimes introduces outside technology, such as micro-irrigation, but only after local alternatives have been exhausted and after careful cost-benefit analysis.

• Quick, tangible successes are the primary source of motivation. No gift-giving or subsidies. Seed money is provided for local savings and credit groups, with loans paid back through returns on investments.

• Starts simple and diversifies with time. Early experiments require small investments and are of limited scale. Begins by

emphasising individual farm-level priorities and then works towards addressing concerns at social, community, and watershed level.
• Many farmers continue to invest in changes well after the Katalysis experience.

Constraints

As with other people-centred, community-based approaches, Katalysis faces some obstacles:
• Like FFS, Katalysis is in conflict with dominant institutional designs (Schut and Sherwood, 2007). For example, the external agent 'accompanies' the learning-action process rather than providing heavy guidance. Outcomes depend on the creativity of participants rather than on pre-determined calendars, budgets, and outputs. Katalysis depends on an open agenda, flexible funding, and strong facilitation skills, which may lie outside the capabilities of common research and development projects.
• The initial spark of Katalysis often came from visits to farms run by innovative families. While the visitors from other communities are impressed by the examples of these extraordinary farms, sometimes the prospect of catching up seems overwhelming. Farmers have to be helped to innovate at their own pace, sometimes requiring special attention, technical support, and encouragement over long periods of time.
• Severe degradation of watersheds is now characteristic of much of the Andes. Reversing this environmental damage can take years and demands investments in infrastructure beyond the capabilities of individuals and communities.

Conclusions

From previous work on pest management (Bentley, 1989), we knew that farmers often missed opportunities for improving their agriculture because of knowledge gaps. Katalysis aims at helping rural people bridge those gaps so that they may creatively manage their own resources in response to the growing threat of climate change.

Katalysis builds on Farmer Field Schools and other flexible, knowledge-based approaches for improving agriculture. Participants aim to enhance the environmental resilience of their farms and production systems through targeted learning and action about water, soils, plants, and animals. They find better ways of using local resources (e.g. cover crops), complemented by experiments with external, but accessible, technologies (e.g. low-cost weather stations, micro-irrigation equipment).

Early results are promising. Katalysis has enabled people to discover hidden sources of water and to gain new appreciation for the potential of plants and animals. Participants have 'greened' previously dry and barren farms, increasing land cover and family wealth.

A sensitive appreciation of local knowledge and creative adaptations, blended with scientific insights, is a realistic way to help farmers start addressing climate change. But that is easier said than done. Development practitioners need to be strong facilitators with flexible programmes and funding to support open-ended learning-action, which goes against the grain of standard pre-planned projects and technology transfer. Donor and development agencies must hand over more trust and responsibility to communities to design and implement their own agendas. Local people and outsiders need to be free to learn from each other, and to learn as they go along.

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Ethics and methods in research for community-based adaptation: reflections from rural Vanuatu

5

by OLIVIA WARRICK

Introduction

In this article I critically reflect on participatory processes in vulnerability research in the context of community-based adaptation to climate change (CBA). CBA is an emerging form of bottom-up adaptation to climate change. CBA is distinct in that it focuses largely on empowerment or 'helping people to help themselves'. Planned CBA aims to reduce vulnerability to climate change by addressing local priorities and building on local knowledge and capacity. Unequivocally, CBA is something done 'with' rather than 'to' communities. As such, participatory learning and action (PLA) methodologies have an important role. CBA-specific toolkits are emerging, based largely on methods established in the disaster risk reduction (DRR) field.

Here, I reflect on the application of various participatory methods in the initial research or scoping stages, where the goal is to establish the problem and reflect local voices in knowledge creation. These reflections are based on my experiences conducting PhD research in rural Vanuatu, a Pacific island Least Developed Country (LDC). I discuss the strengths and limitations of specific methods in the Vanuatu socio-cultural and climatic context and convey some lessons learnt from undertaking participatory vulnerability research outside the context of a funded project. I intend these observations to be useful for practitioners working in the CBA sphere, as vulnerability research is important for advancing knowledge for suitable adaptation and is often an important precursor to planning and action in a project setting.

Vanuatu and climate change

My research took place in three rural communities in Vanuatu between 2006 and 2008: Tangoa Island (Sanma Province), Mangaliliu Village/Lelepa Island (Shefa Province), and Mota Lava (Torba Province) (see Figure 1).

Vanuatu is in the path of tropical cyclones (November to May). It is subject to cycles of El Niño and La Niña, which, respectively, increase the risks of droughts and floods. Future climate change and sea-

Figure 1: Map of Vanuatu

Map prepared by Max Oulton, Department of Geography, Tourism and Environmental Planning, The University of Waikato.

level rise threaten to exacerbate the risks already posed from current variability and extremes. These will be the most significant implications in the short to medium term. Generally, the implications of climate change are not yet 'obvious' at the community scale. Despite Vanuatu's highly variable and often disruptive climate, communities

have been dealing with climate stress for generations and, accordingly, participants in my research did not always have strong views on climate stress or climate change, and did not always consider these problems as priority concerns in the community context.

Climate change was an issue about which most participants already had a basic knowledge via radio, school, or government awareness programmes. In my introductory meeting in each community (and throughout the research process) I presented a simple awareness talk aided by pictures and diagrams. There were many questions and people showed much interest.

Research context and methodology

I spent approximately two months in each community. My research – in response to gaps identified by the Vanuatu Meteorological Service (VMS) – aimed to characterise local perceptions of vulnerability to climate stress to help bridge the gap between local-scale realities and higher scale decision-making processes for adaptation in Vanuatu and the wider Pacific. I worked via the VMS and the Vanuatu Cultural Centre (VCC). Field sites were chosen in response to VMS-identified data gaps. In each community I worked alongside a VCC fieldworker volunteer (or equivalent). The fieldworkers gained an in-depth understanding of climate change issues and community priorities which will enhance knowledge sharing and help to facilitate action past my visits. The VMS will use the research results to assist in adaptation project development. Although Vanuatu currently lacks ongoing community adaptation projects the research is intended to increase the knowledge base in Vanuatu to enable this to occur, particularly as part of the implementation of Vanuatu's National Adaptation Programme of Action (NAPA), completed in 2007.

As this was a PhD, my 'on-the-ground' research was not linked to a specific project or funding. There was no promise of externally facilitated follow-up activities in the communities involved. There are few organisations engaged in relevant and ongoing community-based project work in the outer islands of Vanuatu that I could have successfully linked up with. Where there is no clear, tangible, or material benefit for the community, the ethics of such an approach may be questioned. However, similar concerns may relate to ongoing adaptation work that is not informed by a foundation of intensive, detailed research. In this article, I will restrict discussion to the ethics and quality of various participatory methods within this 'research only' context, accepting that this, in itself, may be ethically questionable in the CBA field.

I used a mixture of participatory group and one-on-one methods to assess local perceptions and experiences of the:

- impacts of climate stress;
- ability to deal with climate stress; and
- relationship of this to wider non-climate stresses and processes of change in the community ('multiple stressors').

Methods were drawn from CBA and DRR toolkits (see Nakalevu, 2006, McFadzien *et al.*, 2005, International Federation of Red Cross and Red Crescent Societies, 2007 and Vrolijks, 1998), and were trialled and modified during the research. All methods were gender segregated to suit local cultural situations. Group activities used existing community groupings (usually church-related) to limit intrusiveness and difficulties with logistics. Groups generally included five to 15 individuals. Some were age specific. For instance, historical timelines were undertaken with elders. All research activities were undertaken in Bislama (a Vanuatu dialect).

I ended each visit with an interactive community meeting, where knowledge was shared and discussed. This also provided a good opportunity for triangulation. Discussions often continued well into the evening. In addition, knowledge was documented in

Table 1: Strengths and limitations of participatory techniques employed in the research context

Method	Strengths	Limitations
Seasonal calendar	Highly beneficial to researcher for understanding relationships between natural resource-based livelihoods, climate, weather, and disasters.	Limited learning outcomes for participants. The complex and time-consuming construction of the calendar allowed little time for discussion. Would be better done in two sessions: one for construction, one for discussion. Participants were unfamiliar with a 'calendar' format and therefore reluctant to engage.
Community and resource mapping	Beneficial to researcher and participants for identifying locations at risk and access to resources and services important to livelihoods and coping with disaster.	Maps generated superficial information as construction was time-consuming at the expense of discussion – participants concentrated on drawing an accurate map. Best done in two sessions to allow for in-depth discussion.
Matrix rating e.g. of resource use, coping strategies etc.	Good for stimulating group discussion and interaction as the rating is impossible to do with one or two of the most vocal or confident group members only. The concept is relatively straightforward and the matrix grid can be prepared beforehand leaving more time for discussion.	Limited outcomes for researcher as the ratings tended to be 'ad hoc', disguising complex contextual and temporal differences.
Focus group	Few.	Shyness and overall reluctance to participate in the absence of a visual activity around which to focus discussion.
Transect walk	Flexible, interactive, informal, enjoyable for participants, informative for researcher. Very useful for researcher orientation early on in the research.	Can be difficult to maintain focus as many issues are addressed. Limited participant learning outcomes as limited opportunity for collective discussion about any one topic.
Historical timeline	Effective catalyst for discussion regarding changes and trends over time in coping strategies etc. Effective tool for analysing the underlying drivers of vulnerability. Best done over multiple visits with a small group. Enjoyable for older participants.	Time-consuming, easy to get off track.
Storian: Semi-structured and informal interview	Effective for building rapport enabling in-depth participant-researcher knowledge exchange and accurate representation of concerns. Enables depth of discussion necessary for understanding underlying drivers of vulnerability. Less intrusive to daily life than group activities.	Little participant-participant collective knowledge exchange and consolidation.
Observation	Non-intrusive, effective for building rapport, informal and enjoyable for participants.	Time-consuming for researcher and unstructured.

Photo: Olivia Warrick

A participant draws a trend line showing change over time in knowledge of traditional medicine, as part of a historical timeline activity.

short reports (in Bislama) and sent back on request to community leaders. They felt that having 'formal' documentation increased legitimacy and pride in the consolidated knowledge, increasing motivation to address the issues highlighted by the community.

Limitations and strengths of participatory methods

Table 1 summarises the specific participatory techniques used, and the main strengths and limitations of each in this particular research context.

Using a participatory approach I intended to maximise community benefits via the research process itself, even though I was unable to provide material outcomes. My intention was to facilitate community learning and empowerment through collective discussion of problems, knowledge consolidation, opinion sharing, and realisation of existing capacities. In reality, what I could achieve was less than expected. This subsequently influenced the methods I decided to prioritise. 'Interviewing' methods emphasising participant-researcher knowledge exchange were generally more successful than larger-group activities aimed at collective participant-participant knowledge sharing.

Limitations

I began my research in Tangoa Island using predominantly group methods. At the conclusion of my research in Mota Lava, I was using predominantly interviewing methods. This was largely a result of the research context. In a more practically orientated project setting, group methods may have been more effective. Most limitations stemmed from the difficulties of being a single, independent researcher, from the low priority of climate concerns in the communities, and from the cultural specificities of Ni-Vanuatu society. However, I do not view this as a 'failure' of participation. Rather, a flexible

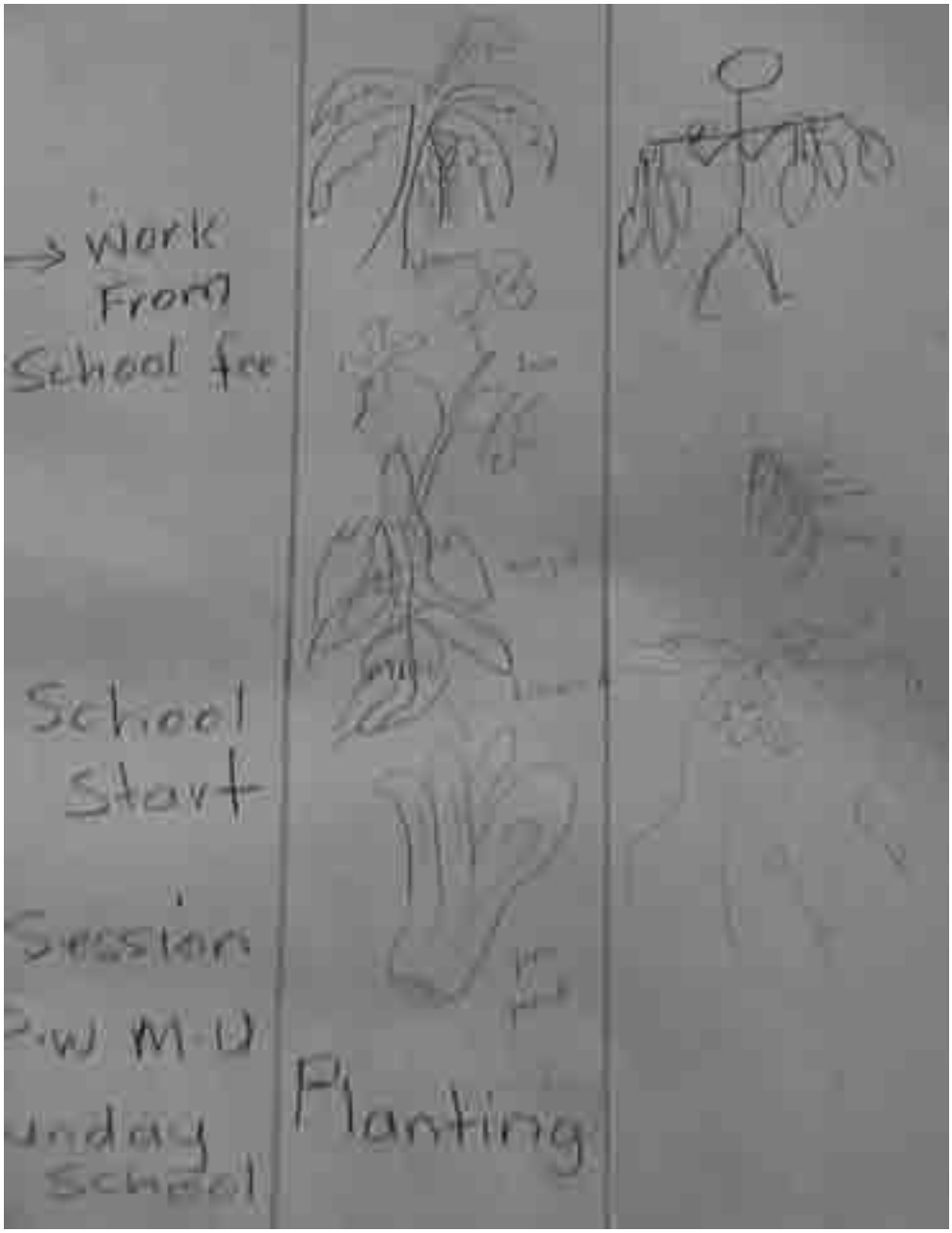

Photo: Olivia Warrick

A sample of participant illustrations from a seasonal calendar activity.

and relatively non-time constrained approach enabled a successful method – *storian* – to be developed, maximising local voices, accurately representing local priorities, and maximising learning within this particular cultural, research, and climatic context.

Participant outcomes

Although group activities often generated a good participatory **appraisal** – rapidly reflecting information and opinions across a range of stakeholders – collective knowledge creation, capacity realisation, and facilitated learning was limited. Due to my

relative inexperience as a facilitator, my status as a community and cultural outsider, and logistical problems as a single researcher, I felt unable to create the environment to achieve this. Group activities often felt forced and 'unnatural'. Participants were reluctant to interact or engage in the activity or discussion. I sensed that more educated participants found the activities somewhat patronising, and less educated or older participants were confused, shy, and unwilling to voice viewpoints. Finding a balance in the group setting was a challenge.

A major limiting factor was that participants often expected me to lead the activity. They were unaccustomed to interacting and discussing freely in a group. It was often difficult to convey that discussion and opinion sharing was the most important part – not drawing an accurate map, for example. In the communities, organised group meetings and decision-making processes are usually led by a 'chairman' or other leadership figure, with people contributing in turn. Another contributing factor may be the nature of 'awareness talks' administered by NGOs, aid organisations, and government in rural Vanuatu. Local people said that these mainly consist of an 'expert' administering a lecture. So an 'in-expert' outsider (me) facilitating discussion and interaction may be an unfamiliar and 'unnatural' concept.

The purpose of the group activities was somewhat unfulfilled. For example, in the seasonal calendar exercise participants requested that I ask questions which they then answered. Although this generated useful information for me, participant learning outcomes were not great. Similar situations arose when my local counterpart facilitated the activity. This type of activity would probably work better in a planning context. However, engaging in the activity itself may have contributed to the process of consolidating and clarifying knowledge and viewpoints, despite seemingly reluctant participants.

Research outcomes

Group activities were beneficial to my research, as they provided triangulation and a range of information in a short time. They also highlighted issues for further follow-up. However, most information generated was superficial due to time constraints and group size, with most time and effort dedicated to completing the actual activity (i.e. map, seasonal calendar) rather than to discussion. Often, the **reasons** behind the answers given were most important. However, group situations were not always conducive to exploring these.

Group activities generally generate good information regarding direct climate-related problems, ways of coping with them, and the strengths and weaknesses of these. In the context of CBA however, it is important to dig deeper, to understand the indirect situational factors and processes determining this over time. These will ultimately shape the ability of a community to generate their own solutions to climate stress and increased uncertainty in future. This required lengthy and in-depth discussion difficult to achieve in the large group activity setting. Successful instances were facilitated by smaller groups and by approaching the exercise informally; generally starting with an informal discussion with the actual activity as incidental.

Ethics

I decided to limit the use of large-group activities, instead emphasising interviewing techniques. Group activities can be disruptive to daily subsistence and economic activities. Climate stress is not generally viewed as a priority concern in the community, so interest in the activities was often low. Although participation was voluntary, I felt that given the 'research only' context, participants were not receiving enough gain from group activities to justify this intrusiveness on their busy daily lives. Perhaps in a project or decision-making context with tangible benefits to

Box 1: Excerpt from a *storian* on Mota Lava, 2nd November 2008 (English translation)

I am talking to participants A and B about the impacts of tropical cyclones (*hariken*), whilst we work in B's garden:
Me: So when the *hariken* came in 1939 you must have been 10 – do you remember it?
A: Yes! That's how I know I was born in 1929! …Every tree went down, we were in Nerenigman [village] and we could see everyone at Totolag and Queremande as they made their cooking fires in the morning… there was a white man that had a small store on Ra island where my father worked and that day I went with him – and the big wind comes now! It came, it came, until it pulled off the roof belonging to the white man… the sea carried everything from the store right up into the middle of the island! We went and dug out tinned fish, soap – all things belonging to the store.
B: Worst *hariken* – we can't remember a worse one.
Me: You had a *hariken* this year – can you tell me about that one?
B: Food shortage now! Oh yes. First time is this year. Small, small *hariken* but…
A: Plenty *hariken* have hit us but we have not had food shortage. But this year – we have a shortage!
Me: So in 1939 do you remember a shortage?
A: Small, small. But all the old people before, they had good gardens and they stored plenty of dried breadfruit…
B: In 1972 it was the same. The gardens were strong.
Me: So what's different now?
B: I can't tell you straight – but I think it's because of a lazy fashion now! Oh, yes, they'll say they don't have enough land now, but the real reason is they don't want to work. There is enough land. We must plant something every day to make sure we have no shortage of anything – that was the fashion of the people before…
A: Custom! Custom belonging to us… must plant banana, taro, cabbage or what – every day.
B: That was the teaching belonging to our grandparents, that was the talk we used to hear in the *Nakamal* [meeting house], that was the talk we used to hear in the gardens with our parents. That was the talk before – before school came to Mota Lava. Plant plenty, plant a strong garden, then if disaster comes, you have food.
A …losing custom, that's why it happens. Losing the custom fashion belonging to the old people before.

follow, these participation limitations would have been less.

Strengths

One-on-one and small group interviews successfully facilitated participant-researcher knowledge exchange, catalysing further knowledge sharing between community members. This was largely at the expense of extensive collective participant knowledge sharing and exchange, but most beneficial to both participants and researcher in the particular socio-cultural and research context. I use the *Bislama* term *storian* – to 'chat, yarn, swap stories' (Crowley, 1995: 235) – to indicate this approach rather than 'interview', as this could be seen as an extractive and 'Western' method. *Storian* is an umbrella term indicating semi-structured interview, informal interview, and opportunistic discussion as part of observation. Irrespective of specific method, the central feature of *storian* is building rapport with participants. *Storian* is essentially a Vanuatu-specific form of 'Talanoa': an established, culturally appropriate Pacific research methodology referring to 'a personal encounter where people story their issues, their realities and aspirations' (Vaioleti, 1999-2003 cited in Vaioleti, 2006:21). Box 1 provides an example of *storian*.

Participant outcomes

To '*stori*' is culturally a central and normal part of daily life. Knowledge is traditionally disseminated orally in Ni-Vanuatu culture. I found *storian* to be the most 'natural', non-threatening, and enjoyable research method for participants. Many community members enthusiastically volunteered for discussions, and were happy to dedicate long periods of time to *storian*. Many participants who were shy in group situa-

Photo: Amanda Leathers

A participant explains traditional methods of minimising erosion risk to me during *storian*.

tions – especially women and elderly participants – were more comfortable with voicing their opinion in a more personalised situation. Importantly, *storian* was generally less intrusive to daily commitments than group activities.

The approach was flexible – although guided to a degree by topic, discussions were led primarily by participant responses, enabling participants to highlight issues most significant to them. Importantly, knowledge generation was a two-way process. The relaxed and highly personal context of *storian* provided an opportunity for participants to ask questions of me. In this way, *storian* became an important platform for raising awareness of climate change issues in the community. Furthermore, through the course of discussion and issue probing, links between climate-related problems (such as decreasing food security after cyclones) and more general problems (such as loss of traditional knowledge and ineffective community governance) were clarified for participants as well as researcher. In this way, the research was interactive, not extractive.

Research outcomes

One of the most significant benefits of *storian* is that it allows people's perspectives to be more adequately reflected as they talk around the topic in their own way. As such, the relative priority of climate-related problems in a context of multiple stressors could be better represented. This is fundamental to successful CBA as community-based initiatives or projects need to directly address locally perceived needs. *Storian* often began with an extensive discussion of general problems and

concerns in the community before addressing anything climate-related. Group activities were often either too climate stress-focused or too general to allow this relative priority to be accurately represented.

The *storian* technique built participant-researcher rapport. This was fundamental to the 'accuracy' of information created. In a project setting, concise participatory workshops are a good way of obtaining a range of viewpoints in a relatively short amount of time, as a basis for planning and action (van Aalst *et al.*, 2008). However, this has limitations as well as strengths. Based on experiences in Papua New Guinea, Mercer *et al.* (2008) identify that information gathered in initial scoping research can be incomplete and skewed in order to maximise assistance from external agencies. In my own experience I found that information (in both group activities and *storian*) was often initially biased towards what participants believed I wanted to hear – this was their way of being polite to a 'guest'. During the course of *storian*, as personal relationships were built, discussions became far more frank. This is important to stress because CBA initiatives built upon less intensive and detailed assessment may be skewed towards the known agenda of the implementing agency – and may not be integrated with true community priorities. This is particularly important in communities like the three I visited, where the implications of climate change or climate stress are not a local priority and a more pro-active approach to adaptation is required.

Storian was often used in conjunction with a participatory activity, for example, historical timelines with small groups of community elders, developed over multiple sessions. A comprehensive historical picture was first built. I then focused *storian* around memorable periods of climate stress such as major cyclones or droughts, the impacts these had, and the ways in which people coped. The activity often concluded with a lengthy discussion regarding the imagined implications of the most major climate event identified occurring today. Historical timelines were particularly effective at characterising the relationships between vulnerability to climate stress, and the 'everyday' stresses and opportunities shaping this.

Additional challenges in integrating climate change knowledge in PLA

Climate change adds an additional layer of complexity in PLA. Many CBA toolkits are based on those intended for disaster risk reduction. The difference is that knowledge of potential future changes in climate – and therefore an understanding of the need for adaptation – is largely held by 'outsiders' and is 'top-down'. This creates particular challenges. CBA is ostensibly a community-driven process with local people, rather than outsiders, as the 'experts' in adaptation processes. In Vanuatu, addressing climate stress is not generally a community priority. Although at times extremely disruptive, cyclones, drought, and flooding are viewed largely as part of 'normal' life. Furthermore, where the implications of climate change are not yet obvious, motivation for adaptation (even if this is merely improved DRR) is likely to be external, at least early on. The nuances and challenges of integrating the concept of climate change into PLA warrants a paper in itself. Here, I address one aspect only: the way and extent in which I actually emphasised the notion of 'climate change' in *storian* and other activities.

Often, CBA-focused PLA toolkits emphasise ascertaining local observations of changes to climate or weather and resultant problems as a basis for developing adaptation strategies. I found that this approach usually over-emphasised shorter-term variability rather than identifying longer-term trends (including increased irregularity and uncertainty) as the toolkits intend. For example, participants in one community claimed to be experiencing

increases in various monthly rainfalls, but this perception was likely influenced by the La Niña occurring at the time – local weather station data did not back up this perception. Mataki *et al*., (2007) experienced a similar issue in their work in Fiji. The Vanuatu climate is highly variable and this may risk attributing anthropogenic climate change – a problem caused by developed countries – to problems that likely result (mainly) from 'natural' variability, in participants' minds. In the Vanuatu community context, vulnerability to climate change is primarily driven by decreasing ability to deal with **current** climate stresses (due mainly to social and economic pressures) rather than by 'weather changes' per se. In this situation, I found that this approach risked erroneously blaming climate change for decreases in adaptive capacity. The consequences of this may be a sense of disempowerment amongst participants. Although climatic variability and extremes have been locally dealt with for generations, I observed that many began to discuss these problems as stemming from forces outside community control and therefore, as requiring externally driven solutions (by government, aid donors, and NGOs). Creating a sense of 'victimisation' is not particularly constructive in the context of CBA in Vanuatu.

Emphasising how people **respond** to climate stress and how this has changed over time aided in avoiding this unnecessary misconception and sense of helplessness. I found that maintaining focus on issues which the community could potentially address itself enabled participants to realise and legitimise their own (fairly extensive) capacities to deal with an uncertain climate. In these specific community situations, vulnerability is constructed primarily by declining adaptive and coping capacity as a result of social and economic pressures. Changes in climate play a somewhat secondary (although obviously important) role in vulnerability to climate change. Climate change mostly increases the importance of soundly dealing with current climate stresses rather than requiring significantly **different** responses at this scale. I emphasise that this may not make sense in every climate change impacts context. Again, the important lesson here is that different contexts call for different approaches in participatory vulnerability research – in both a cultural and climatic sense.

Conclusion

In this paper I offer some reflections on the ethics and quality of participatory processes in the context of community-scale vulnerability research. In CBA, a 'learning-by-doing', action research approach is heavily advocated. Developing practical solutions to problems via the research process itself is often emphasised, and this is reflected in many participatory toolkits. It is important however, that this does not come at the expense of first adequately establishing the problem, and this is where intensive and detailed research is important. Vulnerability to climate change is complex and place-specific and a realistic understanding of local perceptions is essential if resources and funding are to meet community adaptation needs. Climate change adds a further layer of complexity to disaster risk reduction in Vanuatu. Often, sustainable CBA initiatives will require finding creative ways to address local priorities whilst being proactively adaptive. Due to the 'top-down' nature of climate change knowledge, people will have little faith in an initiative that does not address current local priorities in some way. In this sense, locally perceived climate problems and priorities must be well contextualised and understood before planning and action takes place.

The methods most suitable for maximising positive participant and research outcomes for CBA are likely to be very context specific – both in terms of local

socio-cultural situations and research background and purpose. An important lesson learnt through my research is that flexibility, openness, and innovation in the research approach are most important to maximising learning and knowledge consolidation, accurately representing local voices, and ensuring research is informed by, and developed from, local priorities.

Participation may have somewhat different objectives in the 'research' than in the 'decision-making' stages of the CBA process, where planning and action is more the focus. In my experience, techniques enabling depth of both information gleaned and participant-researcher knowledge exchange were more effective in a 'research only' context than techniques aimed at group, collective (or participant-participant) knowledge sharing, and capacity realisation. These may be more beneficial in the 'decision-making' phases of a project where the collective organisation, documentation, and clarification of knowledge can pave the way to action planning.

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Participatory rice variety selection in Sri Lanka

6

by RACHEL BERGER, with ROHANA WEREGODA and VARUNA RATHNABHARATHIE

Introduction

Hambantota District is a major paddy (rice) producing area in the southern coastal region of Sri Lanka. Communities here have been experiencing salt water intrusion into their rice fields, leading to reduced yields. This has been caused largely by seawater contamination of irrigation systems. Farmers had been using saline-resistant varieties developed at the rice research station, Ambalantota, but in badly affected areas these varieties were still failing. This article focuses on work done to identify traditional rice varieties suitable for cultivation in the degraded paddies through a process of participatory research.

Background

The activities described here were part of a three-year project (2005 to 2007) carried out in four countries of south Asia by Practical Action, a UK-based international development organisation. The work in Sri Lanka was implemented by Practical Action's south Asia office based in Colombo. Practical Action had funding to develop a pilot project. Its objective was to increase the resilience of communities to cope with the impacts of increased climate variability in their localities.[1] In Sri Lanka, these were the likelihood of climate change worsening existing problems of salinisation and flooding.

The project worked with 500 households in Godawaya and Walawa Grama Niladhari divisions in Hambantota district along the Walava river estuary. Most people's assets comprise physical capital: crop harvests, livestock, boats, and other equipment.

The villages were selected to participate for several reasons:

- The majority of people were relatively poor – farmers owned typically less than one hectare of paddy land.
- The site lay close to an area where Practical Action was involved in a post-tsunami reconstruction programme, so manage-

[1] Funding was provided by the UK-based Allachy Trust.

Source: http://images.google.lk/images

Traditional paddy trial locations in Sri Lanka.

ment and travel costs could be reduced. The project site was sufficiently far inland not to have been directly impacted, though fishermen's livelihoods clearly were affected.

• The problems faced by the community (coastal erosion, saline intrusion into paddy fields) were typical of those likely to be experienced by rural Sri Lankan communities under climate change, even if the current problems cannot be directly attributable to climate change.

Paddy cultivation in Sri Lanka is largely a smallholder activity. Rice growing is important culturally for smallholder farmers. So even when faced with problems of salinity, farmers were reluctant to switch to other crops.

Salinisation and soil erosion have led to the abandonment of paddy land along the river estuary. Salts drawn up from groundwater are deposited on the surface, and spread as poorly maintained irrigation channels become polluted from the saline estuary. Coastal erosion also reduces the availability of land and forests that are increasingly – and illegally – used by local people as the scarcity of productive farmland increases across the district.

In future, storm surges and rising sea levels are likely to increase salt water contamination. Combined with intense rainfall these problems are anticipated to increase under current climate change predictions. The main focus of the Rice Research Institute in Sri Lanka is on larger-scale irrigated paddy cultivation. However, it has developed a few varieties suitable for saline conditions faced by small-scale farmers, although without the involvement of farmers. In the experience of farmers in the project area, the varieties only tolerate limited levels of salinity.

Box 1: Community perceptions on changing climate

There were no records of any kind held at the local level. Inhabitants' memories were the only source of information. Groups were formed with participants of similar ages to enable discussions amongst individuals with similar knowledge. Participants were grouped into those over 60 years old, between 45 and 60 years, and the younger generation (below 45 years). Women were included, since their work of firewood collection, farming, and homestead vegetable gardening made them more aware of changes in resource availability and temperature than men.

While people had access to modern weather information, farmers still used a forecasting system known as '*Litha*'. *Litha* is a table prepared by an astrologist, using the phases of the moon and the positions of the stars and planets. A full moon, for instance, is associated with rain. The table indicates times when seeds will germinate, or the best time to plant crops so as to avoid pest attacks. However, whilst respondents reported the *Litha* as still in use, it was judged to have become less effective in recent years. This may suggest that climate change is undermining traditional techniques – or perhaps only that modern forecasts are increasingly reliable.

A variety of other traditional forecasting indicators were used (see table below). Their effectiveness was being debated within the community. It was also reported that traditional techniques are not being passed on to the younger generation, who prefer to rely on modern farming and forecasting practices.

Table 1: Traditional forecasting indicators

Observation	Prediction
Large termites start breeding during a dry period.	Rain will come soon.
Ants appear with their eggs and move to a new nest.	Rain will start within 24 hours.
Small termites start breeding during a rainy period.	Rain will stop soon.
A noise is heard emanating from the sea.	Rain will come within seven hours and last for seven days.
Off-season trees such as tamarind and wood apple give good yields.	Good future rainy season – farmers cultivate large areas.
Dogs and cattle make unusual sounds.	Destructive rainy season leading to disasters is anticipated.

Methods and processes

Understanding the situation faced by the Hambantota communities was essential for designing project activities. Gathering sufficient information was critical. In the first six months, we used a range of data gathering approaches:

• **Secondary data**. To select project sites, we used data from e.g. the Sri Lankan census and statistics and International Union for Conservation and Nature (IUCN) reports on coastal recourses. This showed that the Ambalantota division of Hambantota district was highly vulnerable to floods, sea water intrusion, and natural resource depletion.

• **Focus group discussions**. These were used to initiate discussions in the villages and collect background information to validate the secondary data. We held two

[2] The representatives were the Assistant Divisional Secretary (who reports to the District Secretary, a government appointee, via the Divisional Secretary), local government officials from the area, village farmer group leaders, and officers of the Rice Research Institute in the area.

Table 2: Summary of the data-gathering methods

Participatory method used	Objective	Information gathered
Key informant discussions	To collect information on natural resources, livelihoods, and social and institutional arrangements in the area.	• Sources of livelihood • Use of natural resources • Existing socio-economic systems
Focus group discussions	To collect background information on resource use, vulnerabilities, and capacities to validate secondary information.	• Vulnerabilities • Livelihood system problems
Community resource mapping	To identify the natural resource base and natural resource management methods.	• Vulnerabilities • Availability and use of natural resources • Area landscape
Risk mapping	To identify risks to livelihoods within the area.	• Types and causes of risks and threats • Extent of vulnerable areas
Field observation	To further understand biophysical resources, vulnerability, and existing problems affecting farmers' livelihoods.	• Risks and threats in relation to biophysical resources • Encroachments • Severity of problems identified
Transect walks	To further understand biophysical resource vulnerability and existing problems affecting farmers' livelihoods.	• Linking upstream and downstream farmers • Variation in vulnerability

meetings with government representatives and non-governmental and community-based organisations to discuss problems relevant to livelihoods and to understand resource use and vulnerability.[2] This led to the selection of two paddy farming communities (from Manajjawa and Walawa) for further vulnerability assessment. One key issue discussed with focus groups in the community was knowledge relating to weather and climate. This is summarised in Box 1.

• **Community resource mapping**. Following the focus group discussions, we introduced resource and risk mapping to identify the natural resource base and management approaches. Selected farmer organisations and other community members drew maps of community resources, illustrating natural resources important for livelihoods such as paddy lands, home gardens, plantation lands, settlements, and water bodies.

• **Risk mapping**. The groups involved in risk mapping included community office bearers (such as the president of the village agricultural society) and members of farmer organisations. Using the community resource maps, the groups identified areas at risk from salinisation and flooding, water-scarce areas, and irrigation canals. The main issues identified were flooding, salinity, conflicts between water resource users, and risks due to changing land use patterns (the conversion of coastal forests to paddy land). Participants were not asked to rank risks.

• **Field observations and transect walks**. Practical Action project staff joined community members in village visits to complement the results of the focus group discussions and mapping exercises.

Most families were members of the fisheries or farming society when the project began. Farmer organisations in each village act as the decision-making forum for issues such as the farming calendar, water distribution, and seed selection. In preparing paddy land for sowing, all farmers need to work the land together, since channels between fields are interconnected. The whole system will not operate until all fields and the dividing mud walls are ready. These farmer organisations are also linked with government agrarian services centres. Farmers also reported being involved in informal institutions such as the Yaya (field) groups and Seettu (community-managed revolving fund) groups. In the project villages, association members are primarily small-scale farmers.

The participatory process sought to prioritise the main threats to people's livelihoods that could be attributable to increasing climate variability. The community reached a consensus during the participatory assessment process that floods (leading to crop losses) and salinisation (low yields and crop damage) are the main threats to livelihoods. They expressed a clear desire to reduce the risks of crop failure and unprofitable yields.

After the survey, we developed a strategy to build capacity around resource use and management and, in particular, to establish and replicate best practices in crop cultivation. The main vehicle for training was the paddy farmer group. The group was mobilised to adopt and develop sustainable farming practices, such as compost making from rice husks. However, while farming activities are carried out by men and women, the group trialling the rice varieties was dominated by men. In small-scale paddy farming in Sri Lanka, women and men carry out separate tasks: men prepare the land, and the water control mechanisms; women plant seedlings and weed crops. Pesticides, when used, are applied by men, and harvesting is women's work. In most households, men traditionally make many of the farming decisions, though there are women who take on this role. Women's time commitment to household activities was an obstacle to attendance at meetings. The project team made efforts to accommodate women by finding alternative meeting times, but did not challenge the cultural norm of male-dominated decision-making.

The paddy farmer group consisted of 16 farm families. They volunteered to set aside land in their own fields for the trials. The farmers had some success with saline-resistant varieties developed at the Ambalantota Rice Research Institute. However, in badly affected areas the resistant varieties were still failing.

The farmer group agreed to trial some traditional rice varieties alongside the research station varieties. The trial was supported by the National Federation for Conservation of Traditional Seeds and Agricultural Resources (NFCTSAR), a non-governmental organisation, which supplied farmers with traditional seeds.[3] The Federation selected ten varieties that it thought would tolerate the level of salinity present. The varieties had different characteristics in terms of growth, yield, and flavour.

In the first year, both conventional and traditional varieties were grown. The conventional varieties were treated with chemical fertilisers and pesticides and the traditional varieties with home-made organic compost and *neem* oil.[4] A further trial, in the next rice growing season, was of different varieties of traditional rice. Each variety received the same treatment – *neem* oil and organic compost. The farmers planted up to 5kg of each variety in the saline affected areas of their paddy fields and continuously observed the

[3] Local seed banks had fallen out of use following the introduction of high-yielding hybrids in the 1960s and 1970s.
[4] Homemade *neem* oil is used as a pest-control.

Photo: Varuna Rathnabharathie

Meetings with the community (Bundala).

growth and changes in the plants up to harvesting. Two farmers out of 16 cultivated all 10 varieties while the rest cultivated three or four varieties after seeing how the 10 varieties performed in the first trials.

Which varieties to grow on a larger scale were chosen by scoring each variety from one to 10, based on the farmer's preference, where one was the best score. The farmers chose the criteria e.g. plant height, duration of the crop, grain quality, grain colour, saline tolerance, and yield. The selection process was supported by activities to help improve soil quality (much degraded in the saline-affected areas) and soil water retention, by using organic mulches. Mulches reduce the amount of tilling required, which in turn reduces soil salinity caused by bringing salts up from deeper soil levels.

Outcome of the field trials

The results clearly showed improved yields from the trial varieties. The traditional rice varieties also carried a premium market price of up to 50% per kilogram compared to hybrid varieties. After seeing that some varieties performed well in saline soils the farmers developed confidence in their researching and selecting varieties. Prior to developing this network the role of the institute was to provide seed to the farmers with little or no interaction. During the project, the community were able to form good links between the farmer organisations and the government Rice Research Institute. The project also facilitated contact with local government via the Grama Niladhari (village-level administration) and the irrigation department. This prompted important actions such as sluice gate renovation (to prevent seawater flowing into the paddy fields) and support in improving freshwater irrigation. The farmer groups also extended their network to other farmers in the area. Farmer-to-farmer learning was a major development. Farmers testing traditional varieties shared their findings with farmers from the adjacent village who faced similar problems. This stimulated discussions between farmers on variety selection, increased the knowledge of neighbouring farmers on climate change issues, and

Photo: Varuna Rathnabharathie

'Fertiliser pond' in a paddy slot to provide liquid fertiliser (Bundala).

enabled the farmer groups to become change agents at the community level. By the end of the project a traditional paddy cultivator group had been established and was formally attached to the seed conservation organisation, providing a wider network of contacts and support for the Hambantota farmers and helping sustain the project developments once Practical Action withdrew.

Lessons learnt, critical reflections, and analysis

Methodology for collecting information

This article was written after the project ended and after a change in project staff, resulting in some loss of institutional knowledge. Writing it has highlighted some institutional weaknesses within Practical Action: while there is certainly a high commitment to participatory processes, there is no formal across-organisation manual for training in this area. Evaluations of the organisation's work are generally very positive, but there is clearly room for improvement in the amount and depth of information gathered during the initial stages of project development. For example, very little information was collected on social class or power issues in the community, nor on land tenure – possibly because the situation was so typical of the region, and so familiar to the project managers that it did not seem worth recording. This was a small project, with limited funds. The initial activities, including the baseline study and PRA were limited in scope. It can certainly be argued that improving rice yields under salinisation would need to be part of a much broader strategy for adaptation, for which the project funding was inadequate to develop.

Value of the process

Improved varieties are frequently introduced by research stations, but are not

Photo: Varuna Rathnabharathie

'Pokkali' a traditional rice variety grown in extremely saline conditions in Bundala.

always suitable for use in different local contexts. The formal research process fails to address farmer needs, does not build their decision-making capacity, and ignores local knowledge in the selection process. Participatory variety selection aims to address these shortcomings. In this small trial, the process was successful. It built connections between farmers'groups and the Rice Research Institute. These connections should be sustainable, and may lead to a more participatory approach within the Institute's main research programme.

The trial was small-scale, due to limited resources. The method was weakened by not having control plots where conventional and traditional varieties both received either chemical or organic treatment. This has since been rectified in subsequent replication in areas also affected by salinity, where the results have also been favourable. The methods and process would need wider testing before concluding on the success of the approach, or the sustainability of the varieties selected by the farmers. The yield of traditional varieties on average has proved slightly lower than conventional varieties. However, traditional varieties are more profitable than conventional varieties. They are in short supply, and are prized for consumption during festivals, for medicinal reasons, and for their taste and aroma. A simple cost-benefit analysis shows that despite the need for greater labour input (to make compost and *neem* oil), it is cost effective, because labour comes from family and neighbours. Women can also participate more fully in the farming calendar where organic products are used.

A key contribution was in raising awareness of local solutions to climate change threats. Forgotten varieties of indigenous rice were shown to offer a solution to the increasing soil salinity. There are around 2,000 traditional Sri Lankan rice

Photo: Varuna Rathnabharathie

A woman farmer shows her flourishing trial plot of traditional rice varieties.

varieties, many with high nutritional value and medicinal properties, or resistant to particular diseases and pests. Cultivating them has helped a group of marginalised farmers to increase their harvests, whilst the project's collaborative approach has had a positive impact on the attitude of local agricultural institutions. The participatory approach to variety selection overcame the limitations of the conventional research system in meeting the needs of marginalised farmers and integrating local knowledge into the selection process.

Replicability

Other farmers who cultivated saline-affected lands nearby were invited to visit the trials and discuss progress with the farmers involved, and this led to wider adoption. Following the trials, at a meeting in Hambantota, officials from the agricultural department and government

researchers shared findings and discussed these in the context of the impact of climate change on farming in the region. Video documentaries have also been shown to agricultural extension officials at workshops where ministry officials and Practical Action staff presented their different approaches. They have been shown to farmer associations in each district, who have also taken part in visits to successful project sites.

Practical Action has since expanded the approach to many other communities around Sri Lanka (see Map 1). Significantly, other communities have adopted it autonomously, through word of mouth and observation. Traditional varieties are grown by one farmer in a corner of a large field, cultivated by many small-scale farmers. The next year, many other farmers are observed growing the crops. Farmer societies contact Practical Action to find out more, and are referred to villages adopting the practice, and organise their own visits. Staff have been surprised by contact from people in distant places who have heard about the trials. This autonomous replication of a successful practice is very encouraging, though of course difficult to assess without independent evaluation.

Uptake is feasible, though farmers are probably not undertaking rigorous trials before adoption. The methodology is however replicable, provided farmers' groups are adequately supported in understanding the need for a rigorous approach. Support could be provided by the national Rice Research Institute, but the mediation of a non-governmental organisation experienced in participatory methods would increase the likelihood of success.

A more farmer-focused agricultural research agenda is crucial for farmers successfully to adapt their food production to climate change. At present, research priorities are defined by national government or even multi-national corporations. The likelihood for change on a large scale is remote at present.

Adaptation to climate change is highly context specific. At present, salinity may not affect the majority of the area under rice cultivation. Nationally, there is no estimate of fields affected by salinity and salt water intrusion and the likely causes. At a local level however, the number of communities that have raised concerns with Practical Action project staff suggests this issue may be seriously underestimated. Communities throughout a wide geographical area are keen to experiment with saline-resistant traditional varieties of rice. This attests to the relevance of this approach and technology – particularly to communities in marginal locations facing many social and economic challenges, in addition to the added challenges of soil salinity and future climate change.

Conclusion

The participatory research approach adopted during this project demonstrates the importance of experimentation for adaptation. Participatory research provided the farmers with a supportive environment with access to the resources necessary for experimentation. It demonstrates the efficiency of locally informed and farmer-led research. Farmers were able to assess threats to their livelihoods and define their own response. Their capacity to experiment in finding solutions to their own problems was strengthened. The network of relationships built up between the farmers, formal research institutions, government extension services, and a national seed conservation body will hopefully ensure continuity of support for further research by the farmers.

This project underlines the importance of biodiversity for adaptation. The farmers of Hambantota could assess and select seeds able to survive in the degraded environment only through the preservation and free availability of many seed varieties. As climate change pressures mount, it will be crucial to ensure that agricultural biodiversity is not sacrificed for short-term increases in yield.

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Lessons from a participatory transboundary water governance project in West Africa

7

by SAM WONG

Introduction

Climate change brings about erratic climatic variability. Scientists warn that this will lead to increasing episodes of flood and drought (IPCC, 2008). These changes will hit developing countries disproportionately since poor people rely heavily on natural resources and agriculture for survival (Paavola and Adger, 2002). Research also suggests that slight changes in the timing of the arrival, duration, and intensity of monsoon rains will affect the livelihoods of millions of people (UNDP, 2007).

Poor countries and communities need to strengthen their local capacities to adapt to climate change. Climate change affects everyone. It is everyone's intrinsic right to participate in decision-making and in taking action to adapt to climate change. Participatory learning and action (PLA) approaches can help outsiders work with, and learn from, local people, and enable communities to plan and implement adaptation activities.

The complexity of climate change, however, means that it is not enough to focus on the community level. Some adaptation policies can have spill-over effects, for example, one community's decision to build a dam to cope with drought will affect communities lower down the river. So coordination between communities is crucial to the success of some adaptation strategies.

This article draws on research I carried out Ghana and Burkina Faso to explore the impact of a transboundary water governance project on poor people's livelihoods.[1] It examines how communities can identity climate change-related problems and solutions in concert with others, including other communities. Unlike other trans-

[1] Funded by the British Academy, I visited the Upper North Region of Ghana in April and August 2008, where I worked with the Water Resources Commission and a local NGO. I interviewed 19 men and seven women, including project coordinators, regional ministers, civil servants of the Ministries of Agriculture and Forestry, community representatives, and ordinary villagers. Because of time constraints, my research focused on two communities in Ghana, Mognori, and Sapaliga.

boundary water governance arrangements, for example, in the Mekong or Nile river basins, this project demonstrates an attempt to include community members in the decision-making process. It also insisted that both genders were represented on the transboundary water committee. The article discusses the successes and limitations of the participatory approach used to involve communities in transboundary water governance and climate change adaptation activities.

Transboundary water governance project in Ghana and Burkina Faso

The IPCC report (2008) predicts that a 2°C increase in global temperature will make South Ghana wetter and North Ghana and South Burkina Faso drier. This has a far-reaching impact on the use of water and land resources in the region. Ghana and Burkina Faso share 85% of the Volta River Basin. How they manage water is crucial to the development of the region.

The World Conservation Union (WCU) and the Swedish International Development Agency (SIDA) carried out a participatory appraisal exercise (PAE) with communities in North Ghana and South Burkina Faso in 2003. During the exercise, Ghanaians raised concerns over the 'widening and shallowing' of the rivers, blaming Burkina Faso for building dams in the upper course. People in Burkina Faso, in contrast, expressed their worries over higher occurrences of drought in summer seasons (PAGEV Annual Report, 2007). After the participatory exercise, the two donors initiated the Improving Water Governance in the Volta Basin Project (PAGEV) in 2004. This three-year project aimed to develop dialogue between Ghana and Burkina Faso over the transboundary use of water. It also intended to build resilience and strengthen the capacity of local communities to cope with climate change.

The PAE was consultative in nature. Local people were not involved in deciding how the PAGEV was designed and implemented. The project governance structures and the climate change adaptation policies were subject to negotiation by the donors, project coordinator, and the NGOs. Local people were expected to engage with the project by sending community representatives to the meetings and following the agreed policies.

The donors appointed a Ghanaian project coordinator based in the capital of Burkina Faso. They also selected two local NGOs (from north-east Ghana and the south of Burkina Faso) to manage the ground work. The NGOs selected eight communities (four from each side), using the following criteria:

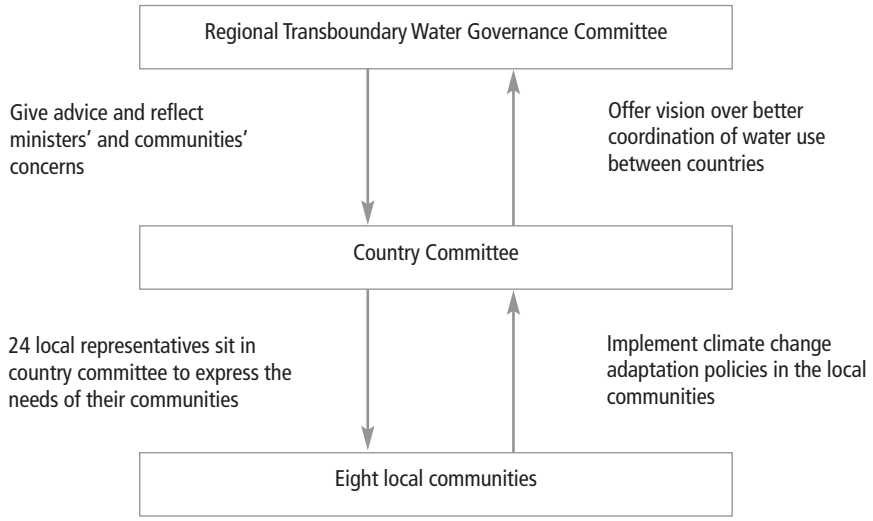
- adjacent to the White Volta River;
- close relationships with the NGOs;
- scale of the problems; and
- diversity of the region, in terms of language and faith.[2]

If the project was successful, the aim was to encourage more communities along the White Volta River to get involved. The NGOs acted as a bridge between the transboundary water committee and the local communities. They negotiated with local leaders about the activities implemented in their communities, monitored the project's progress, organised training workshops for local representatives, and called local meetings.

Diagram 1 shows the participatory governance structure of the project. A Regional Transboundary Water Committee was established. This 14-member committee, with equal representation from each country, comprised regional ministers, district chief executives, civil servants from forestry, agriculture and water ministries, NGOs, and two community representatives. It provided a mechanism for better coordination of water sharing between the two countries. It also had the

[2] Source: interview with Water Resource Commission officer, 20th August 2009.

Diagram 1: Transboundary Water Governance Structure in Ghana and Burkina Faso



Source: author's own diagram, from interviews.

ultimate power to decide what adaptation activities would be implemented on the ground.

A country committee was also set up with 30 members from Ghana and 31 from Burkina Faso. It included eight regional coordinators, six district coordinators, 15 technical service staff (in charge of food and agriculture, forestry, and water), eight NGO representatives, and 24 members chosen from the eight participating communities (eight women and 16 men). This committee advised the Regional Transboundary Water Committee, but possessed no decision-making powers.

The NGOs asked each community to nominate three people to represent their communities. The NGOs set a number of criteria: the nominees should be 'well-respected' in the community, 'educated', 'committed', 'willing to learn' and, to promote gender equality, at least one of the three local representatives must be female. These local representatives were expected to reflect their communities' concerns during meetings and to monitor how the agreed policies were implemented at the local level.

After discussions in both committees, a series of climate change adaptation activities were carried out. A 10 metre-wide buffer zone was formed and trees planted to stabilise the river bank, in order to reduce soil erosion and strengthen flood protection. Farmers were asked to stop farming within the buffer zone (Photo 1). Most land in these communities was owned by chieftains and *Tindana* (religious leaders), so farmers had no choice but to give up the lands. Free mango seedlings were offered to compensate for their loss. Organic farming was also introduced to improve soil fertility. To dissuade poor people cutting down trees within the buffer zone, fuelwood crops were cultivated at its edge. The project also tried to cater for specific community needs. For example, engineers helped the Sakom community repair a leaking reservoir while pumping facilities were provided to Sapeliga and Mognori in the dry seasons (PAGEV Annual Report, 2007).

To improve communication between communities in Ghana and Burkina Faso, workshops, training, and site visits were organised. Community representatives met

Farming along the White Volta River caused serious erosion. The buffer zone was built in order to stabilise the river banks.

Photo: Sam Wong

at least twice a year. They shared both successes and frustrations in implementing adaptation activities in their own communities. Ghanaians developed skills in mango tree pruning from representatives of Burkina Faso while community members from Burkina Faso learnt how to resolve conflicts between farmers and animal owners from their Ghanaian partners.

The NGOs stressed that local participation in the project was crucial to tackling climate change. Villagers needed to develop a sense of project ownership and a deeper understanding of the interdependence of communities in water resource management.

Project successes

Although the participation of local people in the project was limited, and determined by the project designers, the participatory governance structure set up by the project did have a number of successes. My focus here is on three aspects: promoting understanding of the interdependence of communities, embracing diversity, and gender inclusion.

Interdependence of communities

The project was effective in making villagers aware that water-related problems in their own communities were not unique. Through intercommunity meetings and sharing, community representatives and participants had a deeper understanding of the interdependence of communities. The idea of sharing a 'common fate' was mentioned in interviews with local people. One Mognori representative said he had seen the river getting wider and shallower, but that he felt powerless to change the situation. To his surprise, during the country committee meetings, representatives from Sapaliga raised similar concerns. He then realised they shared similar problems. The sense of 'togetherness' was also generated by a constant comparison between communities over the project's progress. During country meetings, the chairperson would report how many new trees had been planted in each community buffer zone. In order not be seen as 'lazy' or 'not progressive enough', one representative said she would ensure her community did not lag behind other communities. This gave a strong sense of self-motivation for rule enforcement.

The project also offered a new channel for local people to express their concerns. Instead of waiting for chieftains or *Tindana* to resolve problems or to provide services, community members could now talk to their village representatives and hoped they would reflect their needs in the country meetings. Signs of success in resolving conflict between Ghana and Burkina Faso over water use have also boosted local people's confidence in the institutional set-up. After a series of negotiations in 2007 and 2008, Burkina Faso finally agreed to make an early warning announcement to the Upper North Region of Ghana before opening the dam gates to release flood water.

Embracing diversity

Social differences of language and faith can be seen as an obstacle to public participation. According to Putnam (2000), trust and cooperative norms are built more easily within homogeneous – rather than heterogeneous – groups. This project, however, demonstrated that, with the right institutional designs and adequate support, embracing diversity can make public participation in transboundary water governance more effective. For example in Ghana, three religions were represented in the four selected communities: Muslim, Christian, and Pagan. While the 'official' languages in both committees were English and French, languages such as Bisia, Kussasi, and Kussal were spoken in their communities. To facilitate communication, interpretation was provided during meetings. This made the meetings lengthy, but village representatives welcomed this initiative since they felt they could engage in the discussion. Christian and Muslim participants were given equal opportunities to open the meetings with prayers. These socially- and religiously-inclusive policies helped build trust and good working relationships in the committees.

Gender inclusion

To ensure fair gender representation, each community was asked to select at least one woman as their representative. The male project coordinator highlighted the role of women in water management: women are responsible for fetching water and collecting firewood in most communities. Successful adaptation policies needed to recognise the contribution of women to, and involvement in, water management. In addition, the intrinsic rights of women to make decisions affecting their lives were clearly underlined in the joint proposal by WCU and SIDA (PAGEV proposal, 2003). One female representative said she felt empowered because she could raise questions during the meetings and challenge decisions that she thought were unfavourable to her community.

Limitations

Despite these successes, the project paid inadequate attention to the issues of poverty and power in developing and implementing adaptation policies.

Poverty insensitivity

The project proposal suggested that the committees and NGOs should use participatory approaches to understand the needs of each community and develop appropriate adaptation activities. However, in practice the process was largely top-down and insensitive to the needs of poorer farmers. The creation of buffer zones on the river banks, for example, hit poor farmers disproportionately because river banks are usually fertile, and the river water makes free irrigation possible. Although the project organisers provided pumping facilities to make long-distance irrigation possible, poorer farmers were often excluded from the pumping groups because the organisers thought they could not afford the fuel costs.

Free mango seedlings were also distributed to provide an alternative farming practice. Cash crops such as mangoes have a high market value, potentially boosting farmers' incomes. The farmers, however, complained in interviews that it would take three years to get the first harvest. They also worried that when everyone switched to growing mangoes, the price would drop and impact on profits. Although they had expressed their concerns to their community representatives, they had been ignored. As a result, some farmers stopped participating in local meetings, believing them to be of no benefit.

Reinforcing power inequalities

The NGOs played a dominant role in organising the nomination of community representatives. Whilst they did ensure gender representation in choosing local

representatives, the NGOs failed to ensure the inclusion of poorer farmers. This was because the NGOs worked closely with local chieftains and *Tindana*. They argued that the support and approval of these traditional authority figures was important to the success of the project. Also, since most land was owned by the chiefs or *Tindana*, their support would ensure a smooth confiscation of land from farmers to create the buffer zone.

However, Laube's research in Ghana (2007) argues that the chieftains and *Tindana* are blamed for causing poverty. He suggests, for example, that the chieftains prefer to lease land to less-poor farmers because they own cattle and can provide a free ploughing service. To safeguard their own interests in the transboundary water project, the chiefs and *Tindana* influenced the process of selecting community representatives, ensuring that members of their family were chosen. In this way, the project has helped consolidate their authority, and the voices and interests of poorer farmers have been marginalised in the decision-making process (Wong, 2008).

This case study offers a good example of the 'paradoxes of participation' identified by Cleaver (2004). The project attempted to set up new institutions for participation, but these new participatory spaces were easily captured by local elites.

Conclusions and policy implications

Climate change affects people both locally and regionally, and participatory approaches need to take a regional as well as local perspective, and provide for better coordination between communities. Expanding the focus beyond an individual community can create a common vision between communities and help local people be more aware of the cross-border impact of climate change.

The project described had some success in setting up transboundary water governance structures and embracing social heterogeneity with regard to gender, religion, and language. However, the participatory space was so restricted that community members were largely ignored in developing strategies for climate change adaptation and water management. Although local people indicated their awareness of the changing climate and river flow, little effort was made to incorporate local knowledge into adaptation strategies. Local people were expected to adopt the policies they were told to.

Local people also had no say in the institutional arrangements and the composition of the regional transboundary water and country committees. Heavy reliance on the support of local chieftains, for the sake of efficiency, risked reinforcing power and gender inequalities in communities, and marginalising poorer parts of the community in decision-making processes.

A preoccupation with setting up the 'right' kinds of institutional arrangements led to inadequate attention being paid to analysing power and poverty when devising and implementing adaptation policies in communities. The confiscation of riverside farmlands and displacement of poor farmers was caused by a lack of genuine farmer participation from the outset. This raises concerns about the implicit preference for long-term ecological sustainability over the short-term livelihood interests of poor people. No matter how well-intended the adaptation policies may be, a focus on long-term ecological sustainability can pose a real threat to the livelihoods of poor people, and worsen poverty. Finding alternative sustainable livelihoods in order to meet poor people's current needs and to protect long-term ecological sustainability is a matter of urgency.

If adaptation polices build on – and help reinforce – existing unequal social structures, poor people will become the victims, rather than the beneficiaries, of adaptation efforts. We need to raise awareness of the potential dangers of working through existing social and political hier-

archies. Learning from the poor and providing them with sufficient support should be considered the first steps to achieving social justice.

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PART II

Participatory tool-based case studies

Participatory three-dimensional mapping for disaster risk reduction

8

by JEAN-CHRISTOPHE GAILLARD and EMMANUEL A. MACEDA

Introduction

Involving local communities is a prerequisite to sustainable disaster risk reduction. Local communities are both the primary victims and the first to respond to emergencies when disasters strike. Nobody is more interested in reducing disaster risk than the community whose survival and well-being is at stake. Community-based disaster risk reduction (CBDRR) fosters the participation of threatened communities in both the evaluation of risk (including hazards, vulnerability, and capacities) and ways to reduce it. CBDRR should eventually empower communities with self-developed and culturally acceptable ways of coping with crises brought about by the occurrence of natural hazards (e.g. Anderson and Woodrow, 1989). Practitioners often merge CBDRR with community-based adaptation to climate change (CBA) as the ability of people to face climate changes shares root factors with the capacity to cope with natural hazards.

Currently, most CBDRR initiatives are confined to community beneficiaries and NGO facilitators. To further enhance disaster risk reduction, it is acknowledged that CBDRR should integrate a larger array of stakeholders, including local government, scientists, schools pupils, and faith groups. The participation of scientists and local government in CBDRR is essential to integrate indigenous and scientific knowledge, as well as bottom-up and top-down disaster risk reduction measures. Yet scientists have often overlooked CBDRR, considering it to be too subjective and removed from scientific methodologies and rigorous protocols, and local governments are often constrained by top-down, command-and-control national disaster management frameworks which give them little freedom for alternative initiatives. Integrating traditional and scientific knowledge, and bottom-up and top-down risk reduction measures, requires methodologies and tools which provide common ground for dialogue between stakeholders. Such dialogue is crucial to build trust between actors who seldom work together.

This paper focuses on participatory

Photo: J-C. Gaillard

Figure 1: Building a P3DM map in Divinubo, Eastern Samar, Philippines, August 2007.

three-dimensional mapping (P3DM) as a way to facilitate the integration of both scientific and local knowledge and the participation of a large array of stakeholders in CBDRR. In this article, we first provide a short introduction to participatory mapping and CDBRR. Next, we describe the methodological process for integrating P3DM into CBDRR. Finally, we explore its strengths and also review some of the major limitations of P3DM for CBDRR.

Background: participatory mapping and CBDRR

Maps are extensively used by both scientists and participatory learning and action facilitators as part of CBDRR activities. Participatory mapping enables communities to delineate areas they perceive as vulnerable and prone to hazards, and to plot desired and useful risk reduction measures. Most participatory mapping projects, however, rely on two-dimensional sketch maps. These are usually limited in size, making it difficult to integrate a high level of detail, especially at the household level (number of people, vulnerable individuals, livelihoods, etc.), which are crucial in disaster risk reduction. Furthermore, participatory maps are intelligible only to those who made the maps. It is difficult to foster their use among non-participant stakeholders, especially at the authority level, to integrate top-down risk reduction measures, and as sketch maps are usually not scaled, they may introduce distortions which make it difficult to integrate scientific knowledge.

Participatory three-dimensional modelling or mapping (P3DM) can help in attempting to overcome these shortcomings. It involves building stand-alone scaled relief maps made of locally available

materials (e.g. cartons, paper), with thematic layers of geographical information (Rambaldi and Callosa-Tarr, 2002). P3DM enables the plotting of landforms and topographic landmarks, land cover and use, and anthropogenic features, which are depicted in push-pins (points), yarns (lines), and paint (polygons).[1] It is worth mentioning that P3DM most frequently stands for participatory three-dimensional modelling. We here choose to replace 'modelling' by 'mapping' to avoid confusion with technological devices such as computer modelling.

Methodological process for integrating P3DM into CBDRR

P3DM has recently been applied to CBDRR through three projects conducted in the Philippines between 2007 and early 2009, in Divinubo (Eastern Samar), Masantol (Pampanga), and Dagupan (Pangasinan) (Table 1). In Divinubo, P3DM was planned after local officials identified a gap in the existing disaster risk reduction programme. The project eventually involved the scientist facilitators, the local government, and a local people's organisation (PO). In Masantol, P3DM followed a request of the local government which helped to build a consortium of stakeholders made up of scientists, the local government, a local NGO, a PO, and the local high school community. In Dagupan, P3DM was conducted in Mangin as a late part of a large CBDRR project involving officials from local government, a Manila-based NGO, scientists, and members of the local community.

P3DM for CBDRR follows a five-step methodology which blends mapping activities with other participatory tools for assessing and reducing disaster risks (e.g. listing, ranking, calendars, transects, and problem trees).

Step 1 consists of building the relief map as detailed in Rambaldi and Callosa-Tarr (2002) (Figure 1). Most P3DM projects for natural resource management and land conflict resolution use scales ranging from 1:5,000 to 1:10,000. In the three projects described here, much bigger scales were used, ranging from 1:400 to 1:2,700, to allow details of people's vulnerability and capacities at the household level to be shown. In Masantol, however, the 1:2,700 scale proved to be too small to plot the details desired by the different stakeholders.

Step 2 is to plot land use and other georeferenced features (Figure 2). Community members identify features which they depend on for their livelihoods, such as fishing and hunting grounds, agricultural fields, settlements, and roads. Participants then differentiate houses and public or private buildings (e.g. schools, churches, stores) according to their characteristics and potential fragility (e.g. multi-storey cemented houses, one-storey cemented houses, wooden houses). Houses and buildings are plotted using pins of different kinds which may be further divided by size and colour to identify building materials. It is also possible to note on the pins the number of people living in each house and their major sources of income/livelihoods. Participants eventually identify and locate the most vulnerable people in the community (e.g. young children, elderly, pregnant women, individuals with disabilities and long-term sickness) using another sort of pin with different colours. It is then possible to plot local resources to face natural hazards (e.g. boats, vehicles, fire hydrants) using additional pushpins (Figure 3).

Step 3 is to delineate hazard-prone areas based on participants' own knowledge and experience (Figure 4). In Divin-

[1] Further information on building participatory three-dimensional maps is available from Rambaldi and Callosa-Tarr (2002) and the Integrated Approaches to Participatory Development (IAPAD) website: http://ppgis.iapad.org. See also Rambaldi *et al*., (2006).

Table 1: Summary of the three P3DM projects for CBDRR conducted in the Philippines between 2007 and 2009

	Divinubo (Eastern Samar) 2007	Masantol (Pampanga) 2008–09	Dagupan (Pangasinan) 2009
Environmental context	Small island	Deltaic plain	Deltaic plain
Social context	Isolated fishing community	Aquaculture and fishing community	Multi-livelihood suburban community (farming, aquaculture, urban resources)
Main natural hazards	• Tropical cyclone • Storm surge • Earthquake • Tsunami	• Flooding (tidal, pluvial, river-related) • Tropical cyclone • Earthquake • Tsunami	• Flooding (pluvial, river-related) • Tropical cyclone • Earthquake • Tsunami
Origin of the P3DM-CBDRR project	• CBDRR and P3DM project proposed by scientists after identification by the local government of a gap in the disaster risk reduction framework	• CBDRR project requested by local community leaders and the local government • P3DM suggested by scientists	• P3DM requested by NGO partner as part of a large CBDRR project
Participants	• People's organisation • Local government • Scientists	• People's organisation • School community • Local NGO • Local government • Scientists	• People's organisation • National NGO • Local government • Scientists
Scale of the map	1:400	1:2,700	1:500
GIS component	Yes, for scientists	No	Yes, for local government
Main problems encountered	• Lack of local NGO to undertake regular updating of the map and ensure its sustainability	• Scale too small to plot details at the household level (livelihoods and resources to face hazards) • Too many villages covered, not enough participants from each village and thus insufficient knowledge of local households • Availability of pushpins	• Insufficient time to plot data at the household level
Main lessons learnt	• Importance of anticipating power relationships within the community • Importance of P3DM in visualising territories • Use of the third dimension in mapping hazards and risk reduction measures	• School pupils can be important participants • Possibilities for integrating details at the household level • Possibilities for integrating CBDRR into development planning • Importance of P3DM in visualising risks • Importance of partnership with many stakeholders	• Local community may be very creative in overcoming technical shortcomings • Importance of permanent updating • Role of local leaders • Possibilities for integrating CBDRR into development planning • Role of GIS in integrating top-down and bottom-up risk reduction actions

Photo: J-C. Gaillard

Figure 2: P3DM mapping of land cover and other features of the community of Divinubo, Easter Samar, Philippines, August 2007, emphasising indigenous knowledge.

ubo, the neat divide between the island plateau and the low-lying villages surrounding it facilitated the definition of hazard-prone areas. In Masantol, villagers decided to differentiate between three types of floods: river floods, rain-fed floods, and tidal floods. These three types of floods and the different areas they affected had been totally overlooked in the official map drawn by scientists. Once this stage is completed, scientists can then overlap their own spatial knowledge of natural hazards.

Step 4 is to plan disaster risk reduction measures. Multi-stakeholder group discussions take place using the map, and actions are identified. In Divinubo, people agreed upon an agricultural field to be protected in the event of a typhoon. P3DM also enabled them to define and plot measures to be taken in times of crisis. Using the map, community members engaged in discussions regarding warning signals able to cover the entire project area. They plotted meeting points, safe evacuation routes, and shelters (Figure 5). In Masantol, participants located the best places for installing flood markers. They also identified a weak point along a fishpond dike which often collapses under the pressure of cyclonic rains or tidal waters, leading to the long-term flooding of three upstream villages. They decided to create a team with members from the different villages to monitor the dike, and reinforce it in times of very high tides and cyclones.

Step 5: data from the P3DM can be input into a Geographic Information System (GIS) for use by local governments or scientists. In Dagupan, the local government is digitising the map in order to get up-to-date and detailed geo-referenced and scaled information of its jurisdiction. In Divinubo, the P3DM also helped in a scientific study of people's ability to cope with coastal hazards.

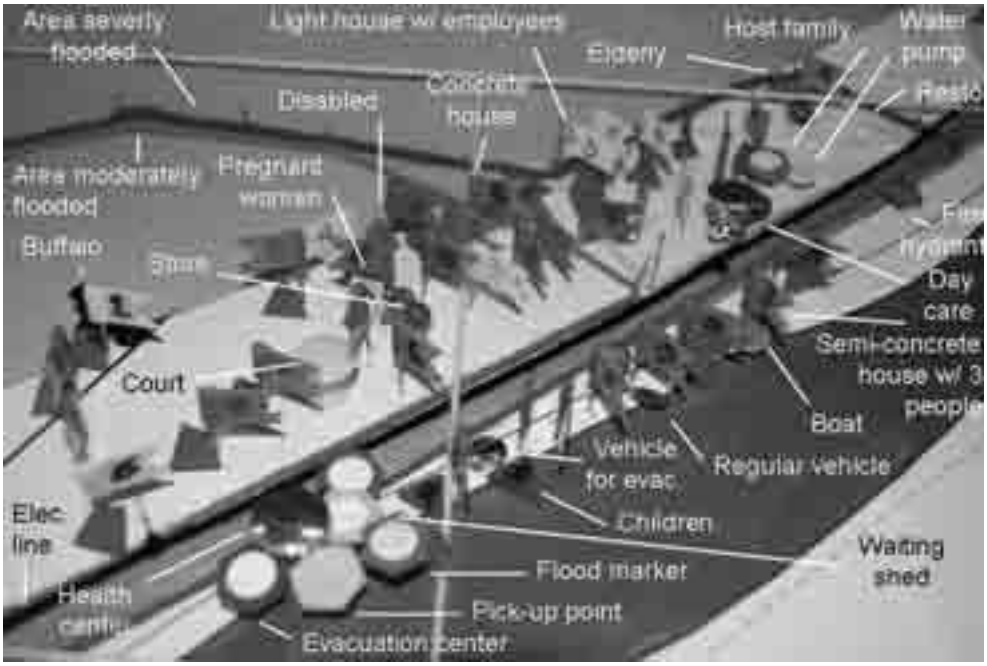

Photo: J-C. Gaillard

Figure 3: P3DM in Dagupan, Pangasinan, Philippines, July 2009.

Strengths of P3DM in reducing disaster risk

P3DM is cost-effective and fosters the use of local materials. The methodology for building the map is also easy to set up and to reproduce. P3DM can facilitate the participation of all sectors of the community, even those often marginalised, such as children, elders, women, and the disabled, through their direct involvement in the construction of a concrete, long-lasting tool for CBDRR.

Building the map in three dimensions and to an exact scale is crucial for the evaluation and reduction of disaster risks. Vertical elevation is essential when the mapping and comprehension of hazard-prone areas requires topographic and elevation references, e.g. for flooding, tsunamis, and landslides. The vertical dimension is also critical for locating refuges and evacuation areas on higher grounds. In the face of rare hazards such as volcanic eruptions or earthquakes, which may be underestimated by local people, the exact scale of P3DM allows scientists to delineate threatened areas as they would usually do on topographic maps or using computer-based tools. Exact scale is important in locating disaster risk reduction measures according to hazard threats and community vulnerability. In Divinubo, the exact scale of the map further proved to be very useful in planning structural measures (a sea wall) intended to protect tourist cottages and a multi-purpose hall.

Vulnerability and risk are abstract concepts which usually materialise only when hazards strike. Showing hazard-prone areas and community characteristics on the same map allows people to identify high-risk areas in their immediate environment. In Masantol, for example, people quickly realised that in one village there were many small coloured flags (representing vulnerable people) and cylinder-like pins (representing vulnerable houses) within a flood-prone area. This prompted them to consider this as a high-risk priority area. P3DM can also be very useful

Photo: J-C. Gaillard

Figure 4: Participants delineating flood-prone areas on a P3DM in Masantol, Pampanga, Philippines, August 2008.

among marginalised communities, such as those living on small islands or in remote rural areas, who are among the most vulnerable to natural hazards. In Divinubo, except for a few men who were more familiar with the island for farming and fishing purposes, people did not have a complete and tangible appraisal of their territory. Most of the participants discovered the real shape, terrain, and land use of the island when building the map.

P3DM fosters the participation of a large range of stakeholders, and collaboration between scientists, government officials, and local communities. It provides a tangible tool around which the most marginalised people, including the illiterate who may have a very poor understanding of scientific concepts, can discuss disaster risk reduction with scientists, who on the other hand may have a poor understanding of the local context. All stakeholders can contribute their knowledge using the same tool. P3DM is credible to

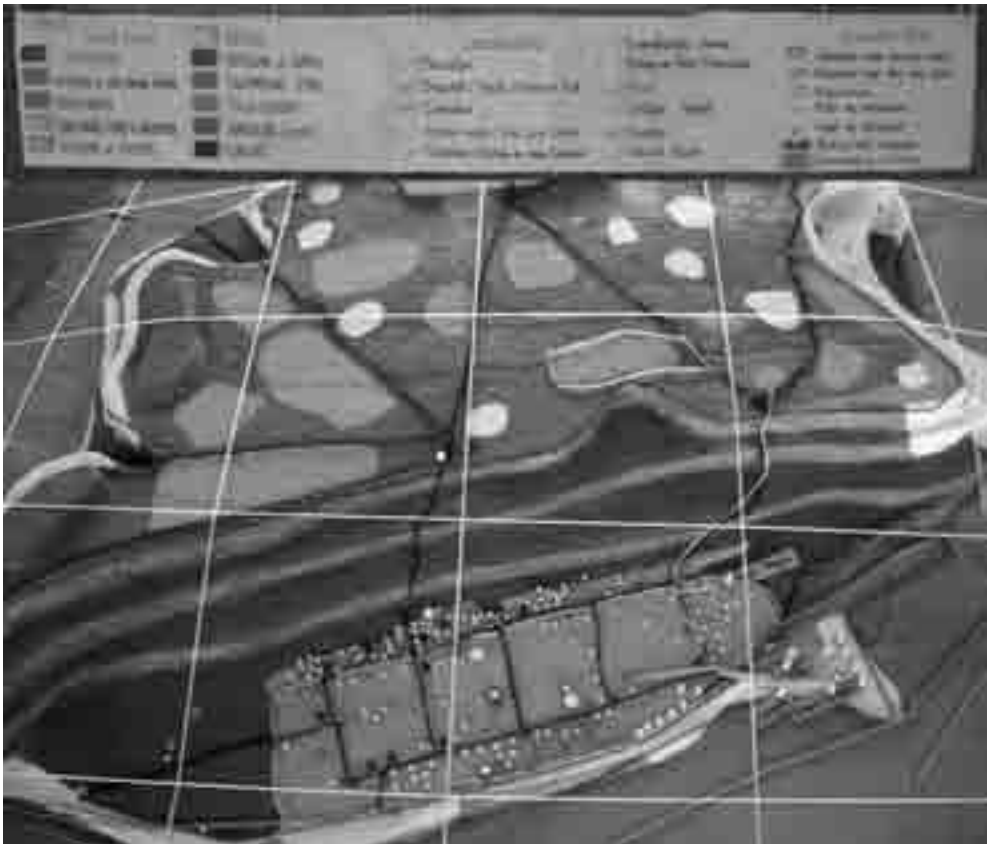

Photo: J-C. Gaillard

Figure 5: P3DM including disaster risk reduction measures in Divinubo, Eastern Samar, Philippines, August 2007.

both locals (including school pupils), who build the map and plot most of the information, and scientists and local government representatives who can easily overlap their own data and plans. In the process, NGO partners serve as facilitators and moderators.

The integration of bottom-up and top-down actions is further facilitated when P3DM data are integrated into GIS to valorise people's indigenous knowledge beyond the community which built the map. This data may be particularly useful for local governments in poor and marginalised regions who are not able to purchase expensive satellite images, and it is much easier and less expensive to update on a regular basis. P3DM offers more information than is usually provided by remote sensing as it can also map underground features such as the types of crop planted in a given area. Finally, P3DM can integrate disaster risk reduction into the larger development framework. In Masantol, participants plan to use the map to locate the best place to construct a bridge linking six isolated villages to the rest of the municipality. The bridge will serve disaster risk-related needs (e.g. evacuation, rescue team access) but also the needs of the villagers who need daily access to public services and commercial places. The map will also be used to settle conflicts between different fishing communities over fishing grounds. In Dagupan, locals use the map for health surveys and feeding programmes.

Limitations and perspectives

P3DM can be a powerful tool but it must be used with care. The initial consultation

phase with all potential partners is crucial in ensuring the participation of the largest possible pool of stakeholders, including the marginalised, who are often less visible within the community. A good preliminary knowledge of the local community and a cautious assessment of the needs and expectations of all potential participants are essential. Should these preliminary activities be carefully conducted, P3DM may help empower the most marginalised – both by providing them with access to scientific knowledge and by demonstrating to scientists the credibility of local knowledge. P3DM aims to level power differentials between locals and scientists, one of the main barriers to integrating local and scientific knowledge.

As with all participatory activities (see Chambers, 2008), P3DM raises ethical issues. For example, the data plotted on the map is not anonymous, so sensitive information such as the location of battered wives must be excluded from the map. Who does and who does not own the map is also crucial as it may eventually be used to gain funding or for political advancement. It is important to anticipate potential turnovers in political leadership which may lead, for example, to the abandoning of regular map updates or to a shift in the use and objectives of the map.

It is essential to remember that P3DM is not a stand-alone tool. It does not yet encompass all dimensions of people's vulnerability and capacities in the face of natural and other hazards, particularly social vulnerability/capacities. It is easier to plot infrastructures, houses, and farm lands than client-patron relationships, gender-related inequalities, and social networks. Variation of vulnerability and capacities in time (especially in the short term) according to population mobility, e.g. from home to work places, is another issue still to be addressed on the maps. For these reasons, P3DM needs to be combined with calendars, profiles, transect walks, and other tools common to vulnerability and capacities analysis (VCA) and participatory and learning action approaches (e.g. Wisner, 2006).

The usefulness of P3DM for CBDRR is highly dependent on the scale chosen for the map and whether there is space available for storing it. The best scale for CBDRR seems to range from 1:500 to 1:1000, although the large size of such maps limits their use to a single community. A very fine scale allows working at the household level but requires a sufficient number of participants per community or a series of sessions to be able to get enough data. Those maps are also intended to be updated regularly as infrastructures and social conditions change quickly. Better sustainability is achieved when monitoring and upgrading the map relies on the long-term involvement of mapping facilitators from local NGOs or governments. It is therefore crucial that these stakeholders serve as leading convenors of the P3DM activities at the local level.

More P3DM projects are planned in the near future in the Philippines and also in Indonesia, Comoros, and Cape Verde, and these experiences should help to refine and improve the methodology further.

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Amplifying children's voices on climate change: the role of participatory video

9

by TAMARA PLUSH

Overview

We would like to appeal to all the leaders who are making decisions about climate change. We want to explain our problems: the children's problems. We hope that the adults will listen to our voices and act on what we have to say.
Vijay Giri, age 17, Bageshwari, Nepal

Climate change is one of the most pressing issues of our time with the greatest impacts being felt by poor and marginalised people living in developing countries, and particularly children. While children have done very little to cause the changing climate, they will inherit its problems. This puts them in the precarious situation of having to cope with both current and future impacts from increasing climate shocks and stresses. Yet when decision makers create policies and programmes for climate change adaptation, children's concerns are rarely part of the discussion, even though children will benefit most from increased knowledge, resources, and funding.

The motivation to amplify children's voices around their adaptation needs formed the basis for a participatory video action research project that took place in Nepal in 2008 as part of an Institute of Development Studies (IDS) Masters research project.[1] As the lead researcher, I had worked as a video professional for more than 15 years, but had not previously used video as a participatory tool. Participatory video is an empowering process where video itself plays a role in transformational social change. Kindon (2003) describes this as a process where community members 'move forward in iterative cycles of shooting-reviewing' to 'create

[1] The project was a joint research initiative with Change with Children in a Changing Climate (CCC), the Institute of Development Studies (IDS), and ActionAid Nepal (AAN). Tamara Plush, the author, proposed the research as part of her Masters at the Institute of Development Studies in Participation, Power, and Social Change and served the role of action researcher, project coordinator, and participatory video facilitator with ActionAid Nepal during the year-long study.

video narratives that communicate what those who participate in the process really want to communicate, in a way they think is appropriate.'

The study took place through an ActionAid Nepal (AAN) programme already working with children to build their resilience to disasters: the Disaster Risk Reduction through Schools (DRRS) project.[2] The video project focused on five villages in Nepal that had been previously identified by government leaders as highly impacted by disasters due to flood, drought, and landslides. The participatory video research project explored if the process of filmmaking – rather than traditional approaches such as workshops or lectures – could better help children understand climate change impacts, identify coping strategies, prioritise their adaptation needs, and advocate for change.

The methodology

The research partners believed that implementing a participatory video project in isolation would do little to help children understand climate impacts and adaptation needs.[3] Therefore, a short-term project would create little ownership of the solution. So they embedded the video research within the three-year DRRS project that started in 2006. DRRS works to reduce people's vulnerabilities to disasters – including those associated with climate change. The DRRS project uses Participatory Vulnerability Analysis (PVA).[4] This methodology was developed by ActionAid that builds on participatory approaches:

> *Participatory Vulnerability Analysis (PVA) is different from previous participatory methodologies because it not only collects data, but also mobilises the people to assess the root causes of their vulnerabilities and the effects at individual, family, and societal levels, and is followed up by them designing appropriate action plans. The main motto of the process is that the communities know their own situations best and so any analysis should be built on their knowledge of local conditions (Gautam, 2007).*

The participatory video research project took place in five DRRS villages from three different geo-climatic regions of Nepal:

- Banke district (Terai plains);
- Rawuwa district (the mountainous zone); and
- Kathmandu (the urban core).

Each regional study began with a five-day participatory video workshop aimed at those already working with children through DRRS. Workshop participants included staff from AAN partner organisations and Disaster Management Committee (DMC) members from the DRRS project locations. Each workshop included 12-18 women and men with a mix of education levels.

The participatory video workshops had three learning goals:

- enhance the participant's climate change adaptation knowledge through locally available learning tools (video and print materials in Nepali) so they can pass the knowledge to child groups in their villages;
- build their technical skills in using video equipment so they can function as the video crew; and
- build their skills in using participatory video for child-led awareness-raising and advocacy so they can carry out the research project and use the skills for future projects.

In the workshops and project, one of the challenges we found was that locally available education tools on climate change were often too technical or abstract for teaching children. Many of the materials

[2] The DRRS project is funded by the Department for International Development (DfID).
[3] ActionAid Nepal, the Institute of Development Studies, and Children in a Changing Climate.
[4] PVA manual: http://tinyurl.com/PVAmanual. Full URL: www.proventionconsortium.org/themes/default/pdfs/CRA/PVA_ActionAid2005_meth.pdf

also focused on an urban mitigation message (such as replacing light bulbs and recycling), rather than on practical adaptation solutions more relevant to agriculture-driven communities with limited access to energy sources. This is an area where more attention is needed both in Nepal and at an international level.

After the workshops, the trained participatory video facilitators used the following methodology in each DRRS community to help the children articulate their climate change adaptation priorities in their own voice:

- The PV facilitators present the project to the children and teachers for approval and input.
- The PV facilitators and local teachers teach the children the science of climate change.
- With PV facilitators, the children create questions related to climate change and interview each other and their elders to generate local knowledge on the topic. The children then watch the video footage and reflect on what they learnt.
- With the PV facilitators, the children work together to create a storyboard and script for their film, and to guide the editing. The storyboard safeguards their vision through the production process.
- The children participate in making their film as actors and supportive crew members.
- Led by the children and PV facilitators, the film is shown to the community and decision makers who can address the children's concerns.
- The PV facilitators work with a local research team to build on the information gathered through the filmmaking process for a printed report.
- The AAN partners, ActionAid, IDS, and CCC distribute the report and child films to local, national, and international audiences.

The project was also designed from the start with sustainability and local ownership in mind. The equipment was selected carefully for cost-effectiveness and ease-of-use both in shooting and editing on the AAN partner's existing computers. For example, the project used hard drive video cameras that record content as video files rather than onto a tape format. This digital-only approach was easy for people with little technical background to understand, and also avoided the necessity of video cards and fast computers for editing. Each trained AAN partner received a video kit so they could continue to use participatory video as they deem appropriate with the DRRS communities.

The approach: raise awareness for action and advocate from the bottom up

Both the ActionAid PVA approach and participatory video research methodology support the notion that individual and political empowerment starts when people undertake a process of understanding and reflecting on their own situations. This is why, for example, the participatory video methodology was designed with space for reflection after the children interviewed each other and their elders in the community, and before creating their final film.

Children learning about climate change and disasters at school have a strong role to play in raising community awareness. Their involvement in creating visual and oral messages can help as the literacy rate in Nepal is just 48.6% (62.7% for men; 34.9% for women).[5] This figure drops in the rural areas of the video study, especially among women. The importance of children in awareness-raising is why DRRS operates through schools with the belief that children who are educated on disasters and climate change will then educate other children, their parents, and the community. This is similar to the concept of people-centred advocacy that seeks to educate and influence decision makers

[5] Nepal literacy rate of people 15 years or older, according to 2001 census.

from the grassroots up in a way that 'enables and empowers the marginalised to speak for themselves' (Samuel, 2002). This dual role of child-led awareness and bottom-up advocacy led to the participatory video methodology. This allowed the children themselves to become action researchers to explore climate change impacts and adaptations at the community level.

Through the report and filmmaking process, we found that children and young people are already experiencing climate impacts particular to them in areas such as their health, education, mental and physical well-being, and food security (Gautam and Oswald, 2008). In their video interviews and the follow up report, they expressed how they are impacted:

It is difficult to go to school at the time of flooding. A lot of children have lost their lives in accidents. Many are now disabled.
Vijay Giri, age 17, Bageshwari, Nepal

The winter is not regular and other seasons have also changed. The winter was very short this year. It has affected our crops. The snowfall helps crops like wheat, barley, and buckwheat grow well. But due to the lack of snowfall last year, not enough food was produced. Families faced food shortages as their crops were not enough.
Pham Maya Tamang, age 21, Sybru Besi, Nepal

We have had problems in finding food and water. The soil and rocks were swept away by the landslides. The animals did not get enough food. And the plants have not been able to grow well.
Sarita Tamang, age 14, Ramche, Nepal

It is important to point out that the stories of climate impacts that we heard during the participatory video research are not isolated in their cause. They are organic and complex, and are often tied to other problems. For example, many of the recent landslides near Ramche in the Rasuwa District have at their root deforestation by both the local villagers and soldiers from the nearby army barracks. Therefore, as the rains become more frequent and intense, it exacerbates the landslide problem.

The participatory video project in action: a case study from Bageshwari, Nepal

The children's video study in Bageshwari gives a good overview of how the action research project worked in practice.

As a first step, Bageshwari DMC members selected 15 children, aged between 12-17 and active in the DRRS project, to work with the PV facilitators on the video research. This group would explore local climatic hazards and participate in making a film on the issues they discover and prioritise. In Bageshwari, one of the main areas they decided to explore more deeply is flooding since it is one of the most widespread climatic hazards impacting on local children, especially on their education. In a recent study with children, Gautam, Kathayat, and Yadav (2008) reported that:

... in the views of the students, there was no problem to cross the rivers a few years back and they had never experienced the fullness of the flooding in these torrents as of these years. More erratic rains are experienced and the students are of the opinion that such patterns of rain cause the floods.

The next step was for the children to learn about the science behind climate change through Nepali teaching materials, and finalise their video questions to ask each other and their elders. Due to the complexity of explaining climate change, the children and PV facilitators decided to phrase their questions in relation to the weather. Here are a few examples of the questions they developed:

Children asked other children on video (15 interviews):

Box 1: Bageshwari children's video: crossing the Murgiya Nala River during flooding

Scene 1: Group of children with books, on a riverside

Girl child: 'There isn't much water today. I think we should cross the river and go to school today. We've already missed 3-4 days of school.'
Children in chorus: 'Yes! Yes!! Yes friends!!! We've got to cross and go to school today!'

Children cross the river in water up to their waist. A boy looses his footing and starts to drown; another boy saves him from the river but he is unconscious.

Scene 2: Children sitting in a circle in front of their school

Boy child: 'We should also talk to them about the problems we have with the bridge. Only our books are spoilt today but tomorrow we may drown and die. So we should discuss these problems with our village elders.'
Everyone: 'Yes, we have to discuss these matters.'

The drama ends with the children presenting their problems to government officials (actors) who agree to help them in building a bridge.

• What problems do you face to go to school in the rainy season?
• What do you need to change this situation?

Children asked their elders on video (15 interviews):

• What was your occupation when I was born?
• What difference do you find between past and present farming?
• How has the weather changed since I was in my first year at school?
• What problems do we face from the changing weather?
• What should we do to overcome the problems of weather change?

Through the elder and child interviews in Bageshwari, the severity of climate change and disaster impacts on the children and their families emerged:

Photo: Bageshwari, Nepal, child film still

Children in Bageshwari, Nepal, use video to dramatise the challenges they face in reaching school during the monsoon floods, which are on the rise due to changes in the climate.

Photo: Matehiya, Nepal, child film still

A young boy in Matehiya, Nepal, interviews his grandfather about the weather changes he has seen in the last decade. The interview is part of a child-led research component on a participatory video looking at climate change impacts on children, and child-led solutions.

We used to get regular rainfall. Now, if we get rain, it is heavy. Otherwise, we don't have rain at all. This is what it's like. There is great change. In the past, production was large. Now it is getting low and we don't have any income at all.
Rudra Bahadur Oli, age 50, Bageshwari

During the monsoon we have not been able to attend school regularly. We've missed a lot of exams.
Meena Bohara, age 14, Bageshwari

When I go to school there are floods. There is a river very close. We get wet. Sometimes children are killed.
Krishna Bahadur Oli, age 12, Bageshwari

In reviewing the content of the community interviews, it was evident that the information gathered by video is similar to findings presented at climate change workshops and gleaned through traditional research methods for written reports (see Mitchell, Tanner, and Lussier, 2007). One difference is how the children feel about the knowledge they gathered through their video research and their sense of ownership:

Special workshops on climate change are only one-way communications. Using video is two-way communications. Hidden things in the community become real.
Raj Kumari Rokaya, age 15, Bageshwari

Participatory video allows you to capture what is fact. In other research, someone

[6] The video was included in the Children in a Changing Climate/ActionAid Nepal report *Child Voices: Children of Nepal Speak Out on Climate Change Adaptation,* which built on the participatory video project in the DRRS communities. The video and report can be found at www.childreninachangingclimate.org/project_5.htm.

asks a question and people may express information that may not be true or the real information may not be given. The video process helps us capture reality.
Vijay Giri, age 17, Bageshwari, Nepal

Through watching the interviews and discussing their problems, the Bageshwari children decided to make a video showing the problems they experience crossing the Murgiya Nala River during flooding. Box 1 presents a short extract from the 20-minute film they made in the hopes of getting a bridge.

The Bageshwari children's film was shown by the AAN partner – Bheri Environmental Excellence (BEE) Group – to the local School Management Committee, teachers, community members, and government officials. Many of them expressed their concern for the children's safety and for their education since they could see powerfully why children are missing classes and exams during the flooding period:

Most of the Village District Committee members were impressed because the video provided a lot of information. They were very sensitive to the child voices and became very serious when they were shown. The Ward members did not know these problems so they were new learnings.
Ram Raj Kathayat, DRRS Coordinator, BEE Group

Additional video showings created community support for building the bridge in Bageshwari; so BEE Group applied for funding:

We applied for UNDP funding with a proposal for a Community Based Disaster Management Project and received a grant for a small construction project in the Banke district. We believe that the children's video was the most important component for UNDP to give us the grant because we mentioned our work experience on using participatory video for climate change advocacy.
Gopal Yogi, Executive Director, BEE Group

With the grant and DRRS funding, the Bageshwari community agreed to spend the funds to construct a bridge over the river Murgiya Nala. It was completed in mid-2009.

With permission from Bageshwari and the other DRRS villages participating in the study, the video interviews and footage from the children's final films were used to produce a report and video targeted at securing child rights for climate change adaptation programmes and funding.[6] These materials were distributed at the UN Climate Change Conference (COP 14) in Poznań, Poland, in December 2008, and continue to be used for national and international advocacy by ActionAid and Children in a Changing Climate.

The report and film were instrumental in securing a promise to AAN staff by Nepal government officials to include child rights within its National Adaptation Programme of Action (NAPA). The NAPA lists Least Developed Countries' urgent and immediate needs for international funding consideration and is to be completed by December 2009 in Nepal.

The government has many issues to prioritise. But we went through the video and report at COP 14 and showed them the situation at the local level. We discussed the links to child rights. They agreed that in the case of Nepal in the NAPA process, child rights need to have priority. This is a great achievement.
Nahakul Thapa, National Coordinator, DRRS project, ActionAid Nepal

Participatory video strengths

As the action research has shown, the participatory video initiative led to many positive results – the most important as a

Photo: BEE Group, Banke District

Through the participatory video project, children showed that they have valid and unique concerns in adapting to climate change. By using video to show their difficulty in getting to school during the monsoon floods, UNDP and ActionAid worked with the local government to approve and build the Murgiyana Bridge in Bageshwari, Nepal, so the children could safely reach school.

catalyst for change since it provided a means for children to speak for themselves on the climate change adaptations issues important to them. The outcomes resulted from a strategic process in project design and implementation based on the values of working with children to identify and solve their own problems. As well, the project resulted in a host of lessons learnt for using participatory video in the context of climate change.

Using participatory video specifically with children can be an empowering method to understand, validate, and amplify their climate change concerns

If participatory video is used as a process of research-reflection-action, it can generate local knowledge, raise the consciousness of those involved, and provide a powerful mechanism to convey specific child concerns. Children experience a range of climate impacts and have unique adaptation needs that are not always considered in climate change policy-making. Examples include requests for infrastructure to secure safe passage to school during flooding or landslides, livelihood support for the family to ensure the children are able to complete their schooling, or better educational materials in the curriculum on disaster preparedness and climate change knowledge.

Integrating participatory video into an existing disaster and climate change risk reduction project can strengthen the use of video as a tool to educate, empower, and advocate

Many development projects fail to take into account the important components of familiarity and trust. By working through organisations with strong community ties and experience in DRR, the participatory video process can add value to ongoing efforts to help children reduce their risk to disasters and climate change impacts. The organisations have established links to local, district, national, and international networks and decision makers. This can also enhance advocacy efforts. It is easier for familiar groups to introduce video into

climate adaptation discussions that may have started prior to the video project, and will continue after the project's end.

Using participatory video as a tool for awareness-raising and people-centred advocacy can strengthen links between scientific climate change data and local knowledge for more meaningful adaptation debates

As climate scientists and decision makers reach to the micro-level to deepen their knowledge on community impacts, participatory video with children has the potential to not only provide data, but offer prioritised solutions in the voice of those most affected. This creates an alternative to expert-driven reports and may have more impact if backed by people-centred advocacy efforts that effectively link children's concerns to development issues.

Using appropriate technology that is easy-to-use, affordable, and fits with the quality needs for video distribution increases its sustainability

From its inception, project sustainability requires an honest assessment of how people will use the equipment, where it will be stored, who will have access, how it will be maintained, who will coordinate and pay for repairs or replacements, and how the organisation will fund future projects. These should be determined up front and supported by necessary staff and resources.

Participatory video limitations

Understanding the limitations of participatory video is important for determining if it is the appropriate development tool to use within a climate change project. Using only participatory video to generate local climate knowledge has the danger of creating fear of the unknown and needs the support of good adaptation learning tools. Too often, science information creates anxiety or confusion that makes the problem too abstract and hard to understand for practical application. People creating tools to facilitate climate change education need to consider:

- how people learn (perhaps by using more visual communications means such as video, art, and drama);
- what information is relevant to them (such as more emphasis on adaptation over mitigation); and
- what strategies are viable within their context (as long as they are provided as guidance rather than as predetermined activities).

Participatory video also cannot magically change power relations within communities, and may even heighten or reinforce them. Because video is an expensive novelty in many communities, introducing it to a specific group can add to tensions around who gets to use it and for what purpose. The project should be structured to recognise and respond to these issues.

Another limitation is that people share experiences differently on camera than in other types of interactions. Realistic expectations need to be set for the information gathered through video versus other means to ensure it is the appropriate choice to meet the project goals.

Technology can also be a limitation and ongoing training and the capacity for continued project management oversight must be considered for long-term use.

A final limitation is the intensity of time and energy needed to effectively use participatory video as a process for social change rather than a one-off video project involving the community. This requires proper cultivation through the project design, implementation, and impact assessment.

Conclusion: participatory video as a catalyst for change

Taking the strengths and limitations into account, the project showed that participatory video can be an appropriate and viable tool to support children in their efforts to adapt to climate change. It can help demystify climate change as an incomprehensible

scientific subject by linking it to the day-to-day challenges children face. When they can analyse their own situations, they learn and internalise the impacts and solutions. Mobilisation for adaptation support becomes their right and a cornerstone for advocacy, which they can address through filmmaking. The digital nature of video communications makes the concerns of children accessible across distances for stronger participation and influence in local, district, national, and international policy and planning decisions. As children continue to endure the impacts of a problem they did not create, every effort needs to be made to secure their right to climate change adaptation programmes and funding. If used appropriately and with integrity, participatory video can be a powerful tool to support these efforts. This is the essence of climate justice.

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Farmers become filmmakers: climate change adaptation in Malawi

10

by FERNANDA BAUMHARDT, RALPH LASAGE, PABLO SUAREZ, and CHARLES CHADZA

Introduction

This article describes the experiences and some of the findings of a participatory video project. This pilot project investigated the effectiveness of video for transferring community-based climate change adaptation practices between vulnerable villages in Salima District, rural Malawi. In collaboration with the Red Cross and the Meteorological Services, subsistence farmers in one village learnt how to operate a video camera, develop a script, and make a film showing examples of adaptation practices they have been developing to adjust their livelihoods to climate change. Mphunga's 'Adaptation to Climate Change' film was then shown in four neighbouring villages that have been suffering from similar climate impacts. The results show that participatory video can be a helpful communication tool in spreading knowledge of climate change adaptation measures between villages.

Background: climate change in rural Malawi

The effects of climate change have increasingly become visible in different regions around the world. The latest report of the Intergovernmental Panel on Climate Change states that rural communities in Africa are amongst the most vulnerable (IPCC, 2007a). The IPCC also says that climate change will lead to more extreme climatic events, compromising crops, food security, shelter, and livelihoods (IPCC, 2007b). Most subsistence farmers lack access to useful and comprehensible information about new scientific knowledge about climate change, and while already adapting to changing conditions they rarely learn about possible adaptive measures developed in other places that could help reduce the negative impacts (Suarez *et al.*, 2008).

Malawi is already experiencing increased climatic variability and more extreme events. Some of the worst impacts are poor crop yields and total crop failure due to droughts and floods, and loss of life due to the consequent famine. The country's low economic power and adaptive capacity puts pressure on the interna-

Location of the research areas in Malawi, indicated as shaded circles North and East of Salima town.

tional community to urgently fund intervention programmes to help the population to cope and adapt. Rural communities are amongst the most vulnerable groups (NAPA Malawi, 2006).

In this context, the Malawian Red Cross Society initiated a programme called Preparedness for Climate Change. This aimed to identify and address risks posed by climate change to their humanitarian work. Building on findings of the analytical components of this programme, the Malawi Red Cross received a grant to develop video tools for promoting climate change adaptation from the Advancing Capacity for Climate Change Adaptation project (ACCCA). The proposal was formulated and implemented in collaboration with the Red Cross/Red Crescent Climate Centre and the Malawi Meteorological Service.[1]

The proposal's main assumption was that audio-visual communications can play a stronger role in community-based climate change adaptation in two ways:

- to help transfer local adaptation experiences between vulnerable communities; and
- to help bridge gaps between the scientific and the real world (Suarez *et al*., 2009).

Over a period of 18 months, this project aimed to:

- convene stakeholders;
- hold a series of workshops with subsistence farmers to discuss climate change and what could be done about it;
- support implementation of local adaptation measures;
- produce video tools to disseminate adaptation practices; and
- evaluate the effectiveness of these tools.

Table 1 outlines the key steps of the project.

This article reports on the evaluation of participatory video as a communication tool to promote climate change adaptation amongst farmer villagers in rural Malawi (Lunch and Lunch, 2006). This evaluation formed part of Baumhardt's Masters thesis at the Environment and Resources Management programme, Vrije Universiteit, Amsterdam. The hypothesis was that a film produced by the villagers with a local perspective, language, and approach could be an effective way of disseminating community-based adaptation.

We worked in five rural villages in the district of Salima in Malawi, Africa (see Map). Mphunga, Kasache, Pemba, Mwanza, and Maganga were chosen because of their high vulnerability to climate change. The villagers' livelihoods are mainly based on smallholder farming, with the staple crop being maize (a grain that often fails due to excessive or insufficient rain). During participatory workshops on climate risks, local people reported increased occurrence of flash floods and droughts. The Malawian Red Cross Society was key in providing a platform for local knowledge to be heard and acting as a gateway to communities.

The participatory video process

By June 2008, the Red Cross Malawi/ACCCA had worked collaboratively with farmers in understanding the threats posed by changing climate risks in central Malawi, discussing key vulnerabilities of

[1] See Kasamale (2006) for more information on the ACCCA project. See also: www.acccaproject.org

Table 1: Outline of the Malawi project on video tools for adaptation to climate change

Month	Activity
1	Inception workshop for Red Cross, Meteorological Service, and other participating institutions
2-12	Series of participatory workshops at Mphunga on climate risks: • observed and projected impacts • exploration of possible adaptation measures
6-15	Series of participatory workshops at Mphunga on participatory video: • farmers learn to use camera equipment • farmers learn to formulate a script
9-15	Implementation of community-level adaptation measures
16	Participatory video work on climate adaptation measures: • selecting examples for video and formulating narrative • filming adaptation practices • video editing
16	Development of survey instruments to assess impact of video as dissemination tool
17	Screening in neighbouring villages and survey of participating farmers
17-18	• Screening and reporting of results at Mphunga • Questionnaire and video interviews of Mphunga filmmakers • Analysis and reporting
18 onwards	• Presentation at UN conference on climate change • Submission to World Bank Micro-Documentary Film Contest

Mphunga, and identifying possible options for adapting to observed and projected climatic conditions. These built both on local knowledge and on lessons gathered by the Red Cross and other humanitarian organisations outside Mphunga. A series of participatory video workshops had enabled several farmers in Mphunga to become familiar with filmmaking equipment and approaches, and they had produced a short video describing the impacts of a changing climate in their village.[2]

In July 2008, the thesis sub-component of the project began: producing films about adaptation practices. In a participatory workshop, a group Mphunga villagers – the 'Mphunga filmmakers' – analysed what they had being doing differently as a result of their understanding of climate change. The filmmakers were broadly representative of the community, consisting of 60% men and 40% women, with 43% between 20 and 30 years old, 37% between 31 and 40, and a few older members. Women actively participated, with a preference for filming instead of being in front of the camera. The 20 villagers sat in a circle and shared their views and examples of adaptation. The facilitator noted the measures and the group voted for the most important ones. There was no limitation in terms of how many or what type and all villagers were free to make suggestions. They defined a list of six adaptation messages that were going to be turned into a short film to go on a 'screening tour' around the four other villages. These villages were on average 40 km apart and had no contact

[2] 'Mphunga Village, Malawi: Climate Change.' Watch online: http://tinyurl.com/Mphunga-video Full URL: www.youtube.com/watch?v=FSquE0WKHuM

Photo: Fernanda Baumhardt

Mphunga villagers filming 'flood alert' message.

with each other.

After a 'refresher' session on the use of the filming equipment, we began our activities in a circle setting. Every filmmaker had the opportunity to 'play' with the camera, filming a friend and also speaking to the camera. When the villagers felt confident, we suggested they organise themselves into pairs: an on-camera reporter to deliver the adaptation message and a camera operator to record it. The farmers were able express their knowledge, directing and filming absolutely everything according to their own perspectives.

The six climate change adaptation messages

The measures defined by Mphunga filmmakers in their video are simple and easy to understand, as well as easy to replicate in other villages experiencing similar problems.[3] These were defined and filmed by the villagers.

Diversification of crops

Most farmers depended heavily on maize, which was failing to produce good harvests when there was too much or too little rain. By planting more land with rice, beans, cassava, and other crops, farmers could ensure that some food would be produced even with relatively unusual rainfall.

Irrigation farming

Agricultural practices in Mphunga are entirely dependent on rainfall. Yet in the neighbouring village of Kasache, simple technology allows for irrigation farming through treadle pumps, providing water to plants and increasing production.

Ducks versus chickens

When floods occur in the village, chickens cannot swim and often drown, affecting local food security. During a Red Cross workshop on climate change adaptation, Mphunga farmers heard how women in

[3] Video: 'Adaptation to Climate Change by Mphunga Villagers.' Watch online: http://tinyurl.com/Mphunga-video2
Full URL: www.youtube.com/watch?v=2PcVn4oy3NI

Photo: Fernanda Baumhardt

Mphunga filmmakers watching their own film.

Bangladesh decided to substitute chickens with ducks, which can float and are more likely to survive floods. Now Mphunga sells ducks to neighbouring communities.

Storm drains and elephant grass

During floods, running water causes erosion and other damage. With the right measures, the negative impacts can be reduced.

Storage of food

Mphunga farmers used to store their harvest in granaries. When flooded, the harvest would spoil. Now farmers store grains in 50-kilogramme bags inside their huts, so that when the waters rise they can take the food to higher ground.

Flood Alert

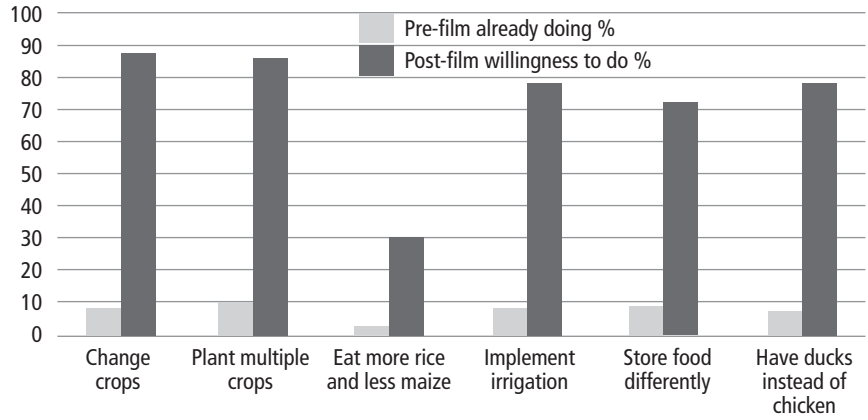
Waters can rise relatively rapidly, and catch households unprepared. Since the Red Cross supported the formation of local action teams, some community members are responsible for alerting the village when waters rise by blowing a whistle.

The film tour

The Red Cross organised screenings of the video in neighbouring communities. Groups of around 20 villagers were selected by the village's headman and gathered at the village schools, to watch the screenings. While gender issues were not at the core of the project design, there was an attempt to ensure balance. Overall there were 60% men and 40% women participants. The villages of Maganga, Mwanza, and Kasache were better balanced while Pemba had approximately 80% men and 20% women. These events followed local traditions, beginning with welcoming remarks and a group prayer. We explained that videos had been created by other villagers like them to share messages. First we showed pictures of the villagers making the film, which helped create an open atmosphere.

The film was screened on a laptop computer placed so that all the villagers could see well. When the audience saw villagers like them delivering their experiences on film, the room was filled by a

Figure 1: Comparing perceptions of different livelihoods adaptation measures, both before and after watching the film.



respectful and curious attention.

To help us evaluate the method, participants answered two questionnaires, one before and one after the screening, to help distinguish what they had learnt from the video. The Red Cross field coordinator and villager's liaison helped define the questions to ensure they reflected and were framed according to local reality. Any illiterate villagers received help from a Red Cross member or from a fellow farmer when completing the questions. A group of villagers were also interviewed on camera before and after the film.[4] Both before and after the screening, participants answered questions mainly about if and how they were experiencing climate change, whether it had an impact on their livelihoods, whether they were already adapting their livelihood practices as a consequence, and how open they were to exploring new ideas of ways of doing this. For each answer, villagers had the option to say 'No'. Figure 1 compares the villagers' responses both before and after watching the film. It shows an overall increase of 55% in their willingness to adopt different livelihoods adaptation measures after watching the film. For a more qualitative capture of their views, four participants in each village were video interviewed (see Box 1).[5]

In the final stage of the project we went back to Mphunga, the filmmakers' village. We showed their film to the whole group, and shared pictures and stories from the four villages where their film had been screened. We also interviewed the filmmakers on their perspectives of the process.

Eighty eight percent of the filmmakers confirmed that they had enjoyed making the film, because it showed how much they knew, because they felt empowered, and because it was good teamwork for the group (Figure 2). They demonstrated that overall, they had benefited from their experience. There were many remarks about how much the villagers liked encouraging and teaching other villagers like themselves about their experiences of adapting to climate change (see Box 1).

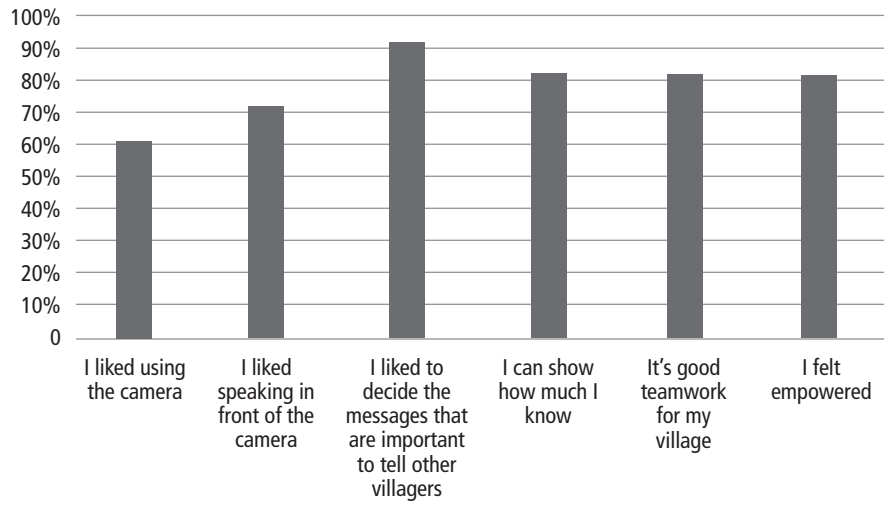
Lessons learnt and next steps

We learnt many lessons during this project. Firstly, more work is needed to develop

[4] This component was designed by Fernanda Baumhardt to fulfill requirements of her Masters thesis. Fernanda is also the founder of Pro Planeta, an organisation committed to the creation of media content that has a positive impact on the development of humanitarian projects.

[5] Baumhardt (2009) offers a more indepth analysis of the results.

Figure 2: Mphunga filmmakers' final perceptions about making the film



Box 1: Transcribed interviews from Mphunga filmmakers

Jamila Anusa
The way I've seen the making of this film is very good because I've learnt about climate change exactly what it is in a way we can even teach our friends in the other villages.

Zainabu Nyaude
In the video what I liked most is to encourage other villagers who don't know about these things. I want to teach others so they can be encouraged.

A sample of these interviews[6] can be watched online in the short documentary 'Farmers Become Filmmakers': http://tinyurl.com/farmer-filmmakers

frameworks for design, implementation, and evaluation of participatory video as a tool for transferring community-based climate change adaptation practices. This must take into account limited human and financial resources as well as the magnitude of the task. Secondly, a substantial amount of energy was required to coordinate the participating actors – the Red Cross national and international staff, climate experts, film technicians, and local villagers. To promote this interdisciplinarity it is critical to build capacity among all stakeholders.

Also, to an extent, this project could have been more participatory. For example, representatives from the Mphunga filmmakers could have participated in the film tour. That would certainly have been a valuable and additional step. However, the main goal of this part of the project was to assess whether or not it was possible to establish effective community-to-community knowledge and experience transfer through video. The video itself was produced by one community using participatory video techniques to be screened at four neighbouring communities. In this context, the video was representing the Mphunga filmmakers and reflecting their perspectives, and was 'the messenger' itself.

Regarding the film production process,

[6] Full URL: www.youtube.com/watch?v=MQYM3iRtABs

Photo: Fernanda Baumhardt

Kasache villagers filming irrigation farming message.

there are practical and technical requirements that need to be considered. Firstly, if the film is to be produced and edited in the local language, the project translator must have good communication skills. In particular, during the editing session, the translator needs to be an effective intermediary between the village editors and the technical editor. Secondly, electrical power is an issue. Potential power cuts need to be planned for during the editing process. This happened frequently during this project. Allow extra time to cover the resulting delays and constantly save your edited footage. In addition, if we had had a power generator, the film screenings could have had far more impact if the film was projected onto a bigger screen connected to louder speakers.

A set of remaining project tasks is to follow up on levels of adoption of adaptation measures and their impact. These include:

- screening the film 'Adaptation to Climate Change by Mphunga' in other impacted villages of Salima district;
- expanding the participatory video approach to more Malawi villages as well as other vulnerable countries;
- developing new video tools aimed at training Red Cross staff and volunteers about how to communicate and use information for climate risk management; and
- equipping the Malawi Red Cross with mobile video projection units to show videos as part of other participatory processes in remote communities.

Conclusions

The initiatives reported here constitute a first step in exploring the role of participatory video to support the formulation and dissemination of information about community-based climate adaptation in Malawi. Ideally, this approach would be embedded in a larger, more ambitious

participatory process of learning and action also aimed at addressing the root causes of vulnerability to climate risk in Mphunga and neighbouring villages. However, such an approach would require levels of experience and resources that are beyond what is currently available to the Malawi Red Cross.

But even with its challenges and limitations, the results here show that participatory video is a suitable tool for transferring community-based knowledge on successful adaptive measures on climate change between vulnerable communities. It also shows that villagers in developing countries can easily learn how to make films telling their own stories according to their local perspectives.

This participatory video approach, integrated with the work of a humanitarian organisation, has already helped some Malawian farmers to improve their food security in a changing climate.

People can learn new skills to cope with the negative impacts of climate change, when they have access to relevant information. Six months after the video made by Mphunga farmers was screened, Alick Malunje from Kasache village told a Red Cross member:

> *I have started keeping my maize in bags. In January 2009 our village was affected by flood. I was able to carry the bags to the temporary shelter without difficulties. I did not lose my food, however those who keep their maize in granary lost the food.*

Based on this experience, the Red Cross/Red Crescent Climate Centre has worked with partners, including local communities, to submit similar proposals for Senegal, Burkina Faso, Kenya, and Tanzania. Each new proposal has been shaped in collaboration with national and local stakeholders. As a result, the Malawi pilot project acts as the foundation of future work.

In the case of Burkina Faso and Senegal, a funding proposal has already been pre-approved by the Global Facility for Disaster Risk Reduction, which will also have a peer-to-peer learning process but will have more of an emphasis in the integration of science-based climate predictions at different timescales (not just climate change but also imminent floods, seasonal drought forecasts, etc).[7] In the case of Kenya and Tanzania, the proposal submitted to the Rockefeller Foundation also includes peer-to-peer learning but has a focus on health dimensions of urban flooding (such as water-borne diseases).

A video project 'Farmer to farmer learning in a changing climate' has also started in Ethiopia with support from the Spanish and the Netherlands Red Cross Societies.[8] Farmers from the Legambo community explain what they are doing about climate change via video, and then the video is shared with another community, Ibnat. The film documents this process and is aimed at encouraging potential donors to support strengthening participatory aspects of horizontal knowledge transfer.

At the same time, Pro Planeta is searching for the right partner to support the expansion of this method across similarly vulnerable and impacted villages around the world. Mphunga's experience indicates that it is not too ambitious to envision the development of a worldwide community-to-community linkage, enabled by participatory video, for the exchange of local experiences and practices, to help empower communities to help each other adapt to climate change. The Himalayan shepherds and the Andean Quechuas might have a lot to say amongst themselves. And, it only starts with one…

[7] See: http://gfdrr.org
[8] The first draft of the video can be seen at: http://tinyurl.com/farmer-learning. Full URL: www.youtube.com/watch?v=m4O1q4QTgQA

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PART III

Participatory tools

Articles in this section are shorter, step-by-step descriptions of how to facilitate a particular tool in a community, for example, rain calendars and mental models of the drivers and effects of climate change.

Developing a climate change analysis

11

extract adapted from CHRISTIAN AID ADAPTATION TOOLKIT

Introduction

The basic approach to developing a climate change analysis is to obtain information from two sources of climate expertise:

- **Climate science**: what meteorological/weather and climate modelling data says about the past, present, and future in terms of both weather/seasonal variability and longer-term climate change trends.
- **Community or local knowledge** of those most directly affected by these processes.

These can be used to develop a 'most-likely scenario' with communities, showing what climate trends are emerging and how they might affect livelihoods in the future. The analysis can feed into a participatory vulnerability and capacity assessment (PVCA), which may focus on several priority factors increasing vulnerability, including climate change. This in turn could be used as a basis for climate change adaptation planning by communities.

Figure 1 shows the process of developing a climate change analysis. Community feedback may well reveal climate factors that were not investigated with climate scientists in step 1, so an iterative process to get maximum benefit from the science is needed. This is best done by bringing climate scientists into direct contact with communities, but this is often not possible (they are a scarce resource) so intermediaries such as agricultural extension or NGO staff need to facilitate.

Accessing climate science

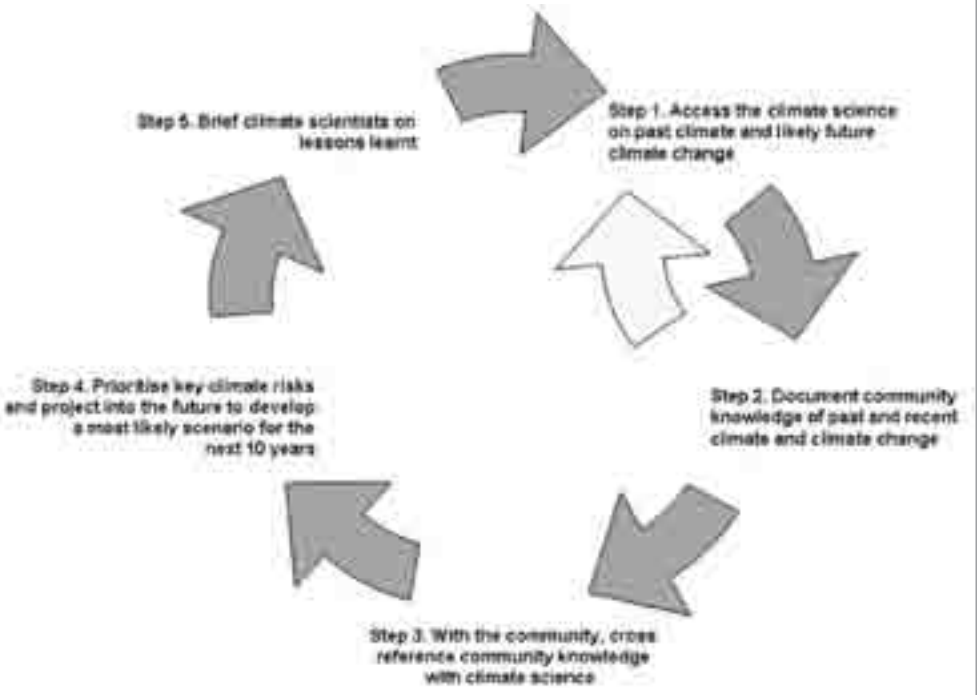
Useful scientific data for a climate change analysis includes:

- **Historical data** from meteorological departments, academic departments, weather stations, etc.
- **Seasonal forecasts** for the next year from meteorological departments and early warning systems.
- What **longer-term climate science** can say about future climate change from climate change models.

However, there are a number of challenges in accessing climate science (Figure 2):

- **Gaps in the science**: for example, at present longer-term general circulation

Figure 1: Five steps to developing a climate change analysis.



models of climate change are not able to provide predictions at the national level, or even the regional level.

• **Structures**: for example, meteorological institutions are often poorly resourced, understaffed, lack facilities for generating climate data, and are not computerised, so that data is not easily accessible.

• **Awareness and communication**: community understanding of the cause and effect relationships within climate change may be poor, information on climate change is often expressed in probabilities and statistics, which makes it difficult for communities to understand, and access to information about short-term weather and longer-term changes is limited, and such information is often not trusted by communities when it is available.

Given the challenges of accessing climate science, practitioners may well have to rely heavily on community knowledge of past changes and assessment of likely future changes.

Using climate science

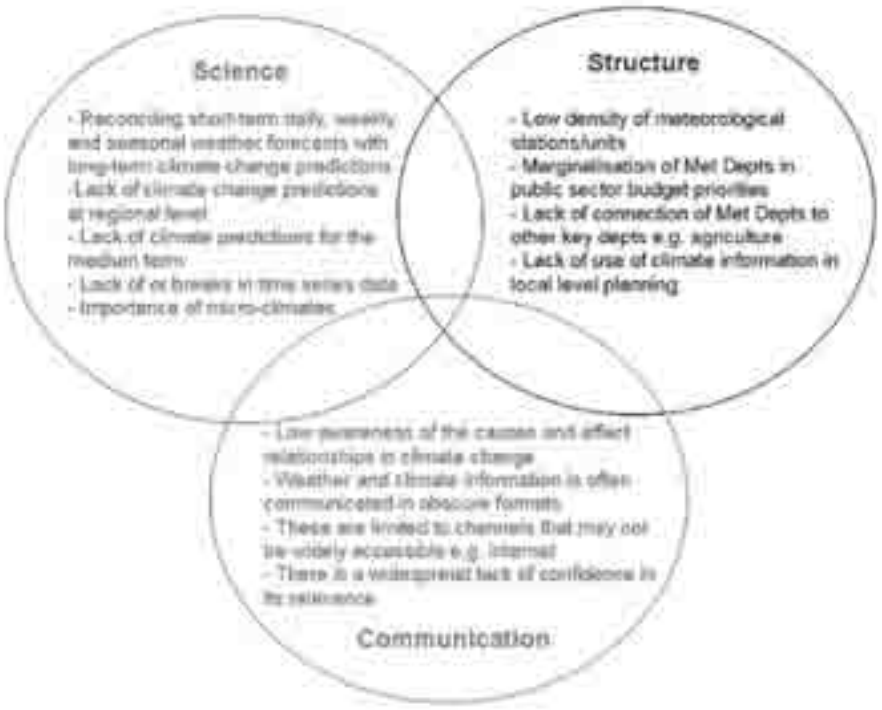
Even when scientific information is available, it needs to be presented in a format that communities can understand, and to be locally verified where possible, to ensure credibility with users. Participatory ways of presenting climate science, and combining it with local knowledge, are therefore central to the process of developing a climate change analysis.

The case studies below, drawn from Christian Aid and other valuable experience, show some examples of how this can be done.

Case study one: integration of seasonal forecasting, Zimbabwe

Farmers in the research area plant a mixture of short-season maize, sorghum, and millet as their staple crops. These communities already have access to the seasonal rainfall forecasts developed at the annual Southern African Regional Climate Outlook Forum (SARCOF). The SARCOF

Figure 2: Challenges in accessing climate science



forecasts are downscaled, interpreted, and disseminated by the Zimbabwe Department of Meteorological Services, with radio being the most common medium for people to learn of them. The forecasts contain the rainfall estimates for the early (October to December) and late (January to March) parts of the growing season, in the form of probabilities for rainfall totals falling in the ranges of:

- below normal (compared to the 10 driest of the past 30 seasons);
- normal; and
- above normal (compared to the 10 wettest of the past 30 seasons).

Participatory climate forecast workshops

Beginning in September 2000, a series of annual participatory climate forecast workshops were held in each village, designed to help a group of 50 farmers better understand the forecast and be able to apply it in their farm management decisions.

A random group of farmers, half women and half men, was selected by local coordinators (extension staff, village chiefs, etc.). The following year, the coordinator randomly invited half the participants from the previous year's workshop and a new random sample of 25 women and men.

The workshops took place in the village primary school, lasted three hours, and were conducted in the local language. Each workshop was videoed to obtain a transcript of farmers' questions and comments.

The workshops followed a common format.

- Firstly, farmers were asked to comment on the previous season's rainfall data, and whether it agreed with their recollection of the forecast.
- Farmers were then asked to comment on the success of their management practices in the past year, given the rainfall that occurred.
- They then offered their insights on the coming year's rainfall, based on their inter-

pretation of local, traditional rainfall indicators.
• The forecast for the coming season was explained to farmers, in terms of the probabilities for below-normal, normal, and above-normal rainfall.
• The forecast was downscaled using farmers' own historical data for local rainfall quantities, to estimate likelihoods for ranges of actual rainfall.
• The information used to generate the forecast was explained in simple terms and questions were invited, including a discussion of El Niño.
• Finally, a discussion was facilitated between the farmers and the local extension officer on farm management practices for the coming year, taking into account the forecast, local indicators, and seed availability.

Farmers were able to take advantage of good conditions to produce higher yields, so it may be that forecasts are of most value to farmers in good years, in contrast to national-level planners who need to know about drought years, enabling them to prepare for food insecurity.

Source: Effects of seasonal climate forecasts and participatory workshops among subsistence farmers in Zimbabwe – Anthony Patt, Pablo Suarez, and Chiedza Gwata (PNAS, August 2005)

Case study two: Climate Field Schools, Indonesia

Climate Field Schools (CFSs) were first developed in Indonesia, modelled on the Farmer Field School approach designed to promote integrated pest management.[1] The basic objective was to develop an effective method for communicating climate forecast information to end-users. More specifically, CFSs intended to:
• increase farmers' knowledge on climate and their ability to anticipate extreme climate events;
• assist farmers in observing climatic parameters and their use in guiding farm activities; and
• assist farmers to interpret climate (forecast) information, in particular for planting decisions and cropping strategy.

CFS development followed a two stage process:
• a 'socialisation phase' which lasted for eight months and focused on increasing farmer knowledge on climate and the use of seasonal forecast information to develop a cropping strategy; and
• an 'institutionalisation phase', which covered a further 32 months and focused on putting this strategy into operation and capacity-building farmer groups to integrate climate and forecast information into their farming activities.

In order to prepare for the implementation of these two stages, agricultural extension workers were trained by Meteorology Department staff to act as intermediaries/trainers and a number of modules were developed and field tested, including:
• elements of weather and climate and the difference between weather and climate;
• rain formation processes;
• understanding terminology used in seasonal forecasting;
• understanding probability concepts;
• use and calibration of non-standard weather/climate measurement tools;
• use of climate forecast information in planting strategies;
• using water balance concepts to estimate irrigation requirements and flood risks; and
• quantifying the economic benefits of using climate forecast information.

CFSs took a strongly participatory 'learning-by-doing' approach, with farmers putting module information into practice over the agricultural season and reflecting on their experience through a

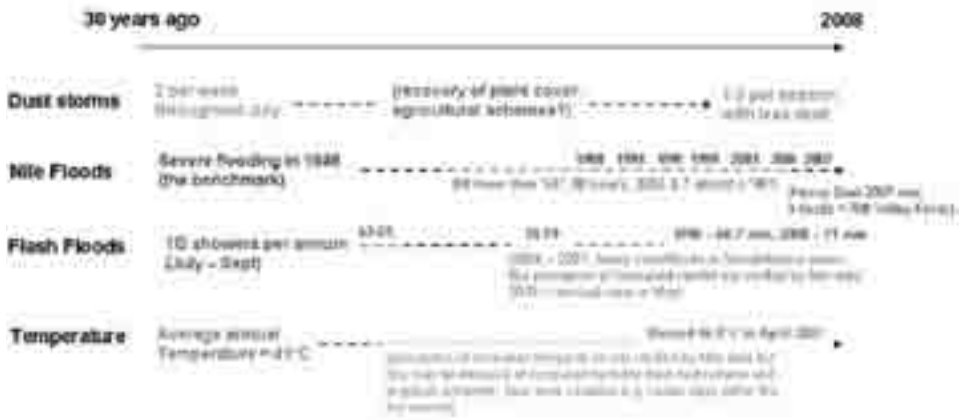
[1] Farmer Field Schools (FFS) are where farmers share their experience, strengthen their ecological literacy through learning experiments, and identify ways of improving agriculture through group problem-solving. See also Sherwood and Bentley, this issue.

Box 1: Climate timeline, Sudan

Atbara Partners Consortium members developed a climate timeline as part of a workshop to review a climate change awareness-raising project. The members determined the main climate features that affected their lives and livelihoods and discussed the trend over the past 30 years, but with a focus on the last 10 years as this was (a) easier to remember and (b) a time in which there was agreement that changes away from the normal variation had occurred. Also involved in the discussion were two staff from Atbara Meteorological Station, who questioned consortium members' perceptions, corrected dates, and gave statistical evidence from their records.

The notable disagreements centred on rainfall patterns, with meteorologists conceding that with limited rain stations and the localised nature of flash floods, these could be missed in the records. Increased average temperatures were not verified by the statistics but members' perceptions could be linked to increased humidity (which feels hotter) and increased variation (hence the 2007 record high), which was suggested as an emerging pattern by the climate scientists. The challenges agreed by the consortium are to:

- deepen the analysis to include differences in trend and variability;
- continue the process to determine what the likely scenario for the next 10 years will be;
- how this will affect the vulnerability of their livelihoods; and
- what therefore the consortium should do in terms of project development and implementation.



Source: Review of the CC Innovation Fund 2007-8, Christian Aid

continuous process of group discussions and analysis with extension staff to inform subsequent action and strategy revision.

When the process was evaluated, 78% of farmers felt that their ability to integrate climate and forecast information into their cropping strategies had increased significantly (7/10 or better). The key challenges identified were translating climate information into user-friendly language for farmers and integrating this into effective adaptation.

Source: Communicating Climate Forecasts to Farmers through Climate Field Schools: the Indonesian Experience – Rizaldi Boer, Kusnomo Tamkani, and A.R. Subbiah

Documenting community knowledge of past and recent climate change

Local communities, particularly those relying on natural resources, have developed a high degree of local knowledge and it is important to capture this.

This kind of knowledge can be captured through participatory tools such as community charts or timelines (see Box 1).

Some tips for facilitating timelines:

- Try to cover extreme weather events over the past 30 years, e.g. severe droughts and floods, as well as late onset of rains, increased occurrence of dry spells within rainy seasons, and their effects on livelihoods.
- Cover any of these events that are clearly

Table 1: Seasonal analysis chart, India

Season	Timing	Typical conditions	Emerging conditions
Summer	April/May	Hot and dry, 30–40°C	**Summer** tending to hotter temperatures (high rather than low 30s), curtailed abruptly by early rains in May
Early rains	June	Early planting rains which break the heat of the summer	When rains arrive, they arrive earlier (April/May) and tend to be constant over 6/7 days with little respite, followed by hot, humid dry spells
Main monsoon and	July – September	30–35°C, increased humidity, main growing season	
Harvest rains	October/ November November	Mainly showers, cloudy weather with vivid blue skies, lower humidity and temperature – a 'happy time'	Harvest rains seem to have diminished
Dew	December – March	Cooling temperatures, dry but with morning dew on plants	Dew season seems to be disappearing
Winter	March	Cold dry weather, 10°C or lower	Winter tends to be shorter and warmer, rarely dropping below 10°C
Spring		Warming, dry weather	Spring seems to be disappearing as winter passes rapidly into summer

Source: Climate Change Review of DRCSC – Richard Ewbank, Christian Aid.

outside existing experience or unprecedented. This will give an indication as to whether the experienced change is really climate change or part of a decadal cycle (a climate feature that cycles over a multi-year period). Make sure the knowledge of older members of the community are accessed as they will be able to remember older events and can confirm whether a more recent event really is unprecedented.

• Include local responses associated with these events, such as any temporary migration (rural-urban, to other rural areas), particular coping mechanisms used, members of the community most severely affected, and why. These can provide further information as to the relative severity of a particular event.

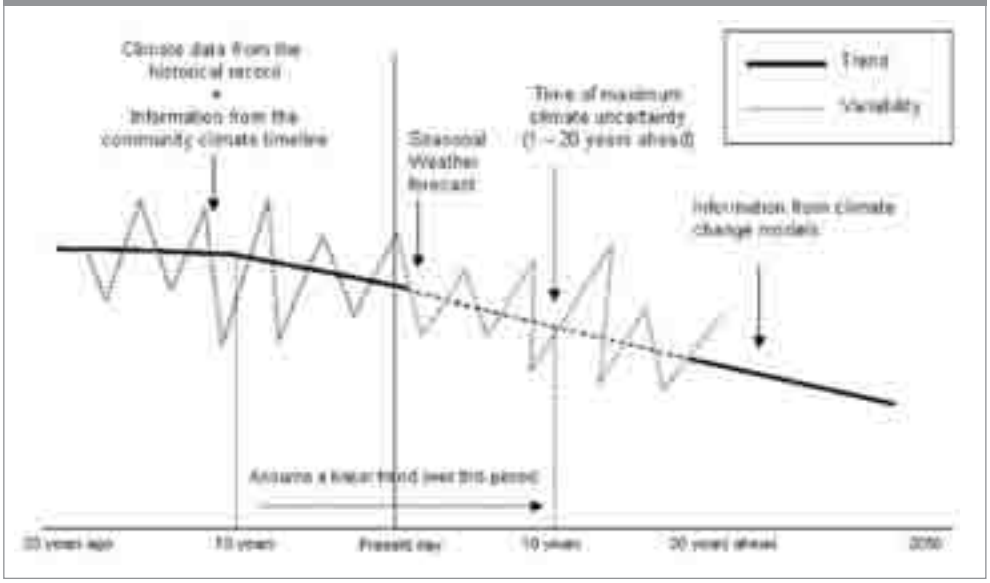
• For the most recent 10 years, increase the level of detail and highlight good, average, poor, and very poor seasons and significant climate features and note any interrelationships.

Case study three: seasonal analysis chart, India

In Purulia (West Bengal), community groups analysed the way in which seasons had changed over the past five to six years, the agreed time over which group members felt that changes in seasonality had emerged. Farmers talked of a trend over the last five to six years toward only three seasons – winter, summer, and monsoon – rather than the six they used to experience. This was something that even older community members highlighted as unprecedented, citing problems with the timing of traditional ceremonies in the harvest rains period (see Table 1).

Changing conditions **within** the three main seasons – summer, monsoon rains, and winter – were also noted, such as warmer winters, hotter summers, and extended hot spells within the monsoon season that caused visible heat stress in crops and other plants. In the past, the

Figure 3: Developing a climate change timeline



main monsoon rains tended to bring heavy rain early in the day, which then subsided to allow working in the paddy fields, with rain often resuming in the evening. The current trend is for constant rainfall for extended periods followed by hot, dry spells. This affects work patterns, making cultivation of supplementary crops (which are an increasingly important adaptation strategy) difficult.

In terms of livelihood response, the community highlighted crop diversification (including increased cultivation of maize, groundnuts, cowpeas, and vegetables), moving from hybrid 60-day to traditional 30-day rice varieties which are more drought tolerant, increased use of ponds for supplementary irrigation, as well as fish farming.

Projecting into the future

Unlike probabilistic weather forecasts that give a percentage likelihood of something happening, the community needs an agreed 'most-likely scenario' with which to guide future adaptation. This can be achieved by:

- Prioritising the three to four (maximum) factors that are considered the highest priority climate change threats to livelihoods i.e. those causing most damage to livelihoods. These can be identified by listing all climate factors affecting livelihoods identified with communities, and pairwise ranking them.[2]
- Using the assumption that the direction of change experienced over the past 10 years will continue for the next 10 years, do this for both trend and variability but use any available long-term climate modelling information as a guide to whether this assumption needs to be adjusted.
- For each of the priority climate factors, allow for discussion amongst the community members. This is not an exact process but the analysis must be agreed to be credible.
- Follow the logic of Figure 3 above, but use a way of recording that the community can easily understand – they will probably want to use less mathematical ways of representing their view of past and future climate (such as the seasonal analysis chart or climate timeline).

[2] For more information on pairwise ranking see e.g. 'Pair wise ranking made easy,' Tim Russell, in *PLA Notes* 28. Online: www.planotes.org/documents/plan_02806.PDF

• Where communities have already developed action plans, the analysis can be integrated into these plans. Detailing the likely impact on resources and features identified in community maps is a useful tool in this respect.[3]
• Given the focus on anthropogenic or man-made climate change, it is important to ensure that the most-likely scenarios are related as far as possible to climate change, rather than other factors that may have a livelihoods impact e.g. diversion of rivers reducing irrigation water resources rather than reduced rainfall.

Reporting back lessons learnt to climate scientists

If possible, report the process back to climate scientists (primarily in meteorology departments/institutions, but also academic institutions or specialised climate/climate change organisations) so that they are aware of:
• the results of the exercise;
• the constraints and challenges encountered; and
• the community priorities that future climate science could address.

This will be important in developing or strengthening climate science–community linkages and highlighting the importance of increased resources for this.

Source: adapted from Christian Aid (2009). 'Module I: Framework and Approach.' *Christian Aid Adaptation Toolkit: Integrating adaptation to climate change into secure livelihoods.* Christian Aid: UK. The manual (available from Christian Aid) gives fuller details of this process, including how to find and interpret scientific meteorological and climate change data.

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[3] See e.g. Gaillard and Maceda, this issue, for more on community mapping tools.

12 Rain calendars: a tool for understanding changing rainfall patterns and effects on livelihoods

by CYNTHIA AWUOR and ANNE HAMMILL

CARE and the International Institute for Sustainable Development (IISD) collaborated to pilot the use of an innovative tool for participatory analysis of changing rainfall patterns. The rain calendar tool is designed to gather community perceptions of rainfall patterns, to determine the parameters for good, average, and bad years in terms of rainfall, and to provide a platform for discussing risk management strategies to adapt to changing rainfall patterns.

How to facilitate the tool

The tool essentially combines a historical timeline with a seasonal calendar.

- Participants are asked to plot rainfall and temperature conditions experienced over five or more years.
- They plot the timing, that is, the months or seasons (and where possible, the specific weeks) during which rain fell in their locality. They also plot the amount of rainfall received under the categories of little/below normal, average/normal, or heavy/above normal rainfall.
- In the same way, information on temperature level (normal, high, cold, very cold) and timing is plotted for each year.
- Participants also describe the nature, duration, distribution, and effects of rainfall and temperature conditions experienced on their livelihoods.
- Where meteorological weather records and other relevant reports are available at the local level, these are compared to the information provided by communities for validation.

Case study: examining the vulnerability of pastoralists to climate change in Ethiopia

CARE, IISD, and Save the Children UK used the tool on a pilot basis in a collaborative research project in May and June 2009. The project examined the vulnerability to climate change of pastoral communities in the Somali and Borana regions of Ethiopia. Approximately 24 focus groups disaggregated by gender and age were involved in developing rain calendars.

In Kalabaydh village (Shinile district,

Table 1: Rain calendar, Kalabaydh Village, Shinile District, Ethiopia, May and June 2009

MONTHS		Jan	Feb	Mar	Apr	May	Jun	July	Aug	Sept	Oct	Nov	Dec
Rainy Seasons				*Gu* Season				*Karan* Season					
YEARS													
2009	R	X	X	X	X	**	X						
	T	↑	↑	↑↑	↑↑	↑↑							
2008	R	X	X	___	___	___	X	**	**	X	X	X	X
	T	↑	↑	↑↑	↑↑	↑↑	↑↑			↓	↓		
2007	R	X	X	**	**	**	X	**	**	**	X	X	X
	T			↑	↑	↑	↑	↑↑	↑↑	↑↑	↑	↑	↑
2006	R	X	X	___	___	X	X	___	___	___	X	X	X
	T	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑
2005	R	X	X	___	___	___	X	___	___	___	X	X	X
	T												

Key:

** Light rain showers X no rain ___ normal rain ═══ heavy rain

↑ normal temp. ↑↑ high temp. ↓ cold temp. ↓↓ very cold temp.

R = rain
T = temperature

Somali zone), the rain calendar helped community groups to compare weather conditions (rainfall and temperature) in terms of quantity, quality, and distribution during the main seasons (*Gu* and *Karan*) across past years (Table 1). The calendars showed that, in 2009, daytime temperatures in the *Gu* season (March to May) were the warmest experienced so far in the last five years. They also showed local variations in rainfall: some locations within the area receive comparatively higher rainfall than others in given seasons, and this results in a higher concentration of livestock in such areas and the potential for the rapid spread of livestock diseases. The

Notes on rainfall and temperature
Two days of rain showers in the third week of May.
High temperatures. Temperatures were warmer than in 2008.
In the *Gu* season, the rains were near normal and were better than in 2009. In the *Karan* season, light rain showers fell for 1 to 2 days. However, some pocket areas received *Karan* rains for more than 2 days. The 2008 rains were insufficient. Most livestock were not returned to the area due to insufficient pasture. In pocket areas that received more rain, the community was advised not to concentrate livestock there due to the spread of diseases.
In January and February, days were very warm and nights were cold. Temperatures increased in March and April and were very high in May and June. Temperatures began to decrease in September. October was the coolest month.
The rain was of little quantity. It was poorly distributed and fell in a few areas in both the *Gu* and *Karan* seasons.
Between March and June, temperatures increased though they were cooler than in 2009. From July to September, temperatures were very warm during the day and the nights were windy. From October to December, temperatures were moderate. There were huge livestock deaths in 2007and 2006.
The rainfall was good in March and April. In August and September, the rains were normal. An unknown disease affected camels in August and September. Other livestock were also affected by a disease that led to miscarriages.
There was normal temperature all year.
There was very good rain in both the *Gu* and *Karan* seasons.
Temperatures were warmer than in the previous year (2004).

calendars also recorded other major events that affected the lives of communities across the rain calendar years for example, years when they experienced severe droughts as well as years when they had good rains, or huge losses of livestock due to diseases and drought.

The rain calendar was used to facilitate discussions and reflections on:

• Other factors that contribute to the problems communities experience, such as population growth and pressure on resources.

• Current coping strategies such as feeding livestock on relief food, herd diversification, purchase of grain, and the sale of firewood and charcoal were also discussed. Communities reflected on the sustainability and effectiveness of their coping strategies, and articulated their needs in terms of the types of support they require to help them adapt to longer-term changes, and reduce the negative impacts of various coping strategies. For example, the Kalabaydh community noted that the government should provide physical and financial resources for the construction of water reservoirs, and tap the available ground water and distribute it in the area.

Strengths and limitations of rain calendars

The rain calendar is a simple, user-friendly participatory tool. It takes a relatively short time to apply it, and it doesn't require a high level of expertise to use.

The rain calendar provides useful information that can be used to compare weather conditions for specific sites across seasons and years. It helps document changes in the predictability of rainy and dry seasons, based on the onset and cessation. It also clarifies the consequences of the changes on livelihoods. However, it may not help in providing patterns of weather conditions.

Since the rain calendar is a tool that is useful at local level, it is important to accurately translate information into and from local languages when applying the tool in the field. It is also important for facilitators to be clear on the specific types and parameters of information to gather, and use a standard template (including symbols) for recording gathered information. This makes it easier to understand conditions experienced at a glance, and harmonise such information.

The rain calendar provides qualitative weather information for specific locations. It helps project practitioners and researchers to better understand how community members evaluate their weather conditions, and how changes in these conditions affect their livelihoods. From the pilot study, it was noted that communities' interpretation of good or bad seasons incorporates weather as well as other conditions such as:

- quantities of crop yields;
- pasture availability;
- livestock productivity;
- occurrence of abnormal livestock and human diseases and mortality;
- duration of migrations (which could be due to bad weather, political conflicts etc.); and
- access to markets.

For example, the group of older men in Kalabaydh village noted that over the last 10 years, it has been getting warmer and drier in the area. Consequently, livestock numbers and quantities of milk produced have reduced over this time. The older women mentioned that they constructed semi-permanent houses in 2004 when there was plenty of rain and abundant, good quality grass. They also noted that 2007 was a bad year because it was very dry in both the *Gu* and *Karan* seasons, their family members had to migrate livestock to Oromiya, and they suffered loss of some livestock due to camel-rustling in Oromiya.

It is therefore important for the facilitators to guide discussions in a way that will bring out precise information on weather conditions separately from other conditions that affect communities. For example, based on the information provided by communities, facilitators should ask follow-up as well as guiding questions that would bring out additional and specific information sought for the purposes of developing the rain calendar.

The rain calendar relies on participants' collective memory. It was noted that the precision and accuracy of information provided diminishes after five years. Therefore, the rain calendar cannot be used to determine changes in trends of weather conditions for the specific locations in which it is applied.

The information obtained through the rain calendar can be augmented with larger-scale quantitative meteorological data for project planning and implementation.

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Mental models: understanding the causes and consequences of climate change

13

by PETRA TSCHAKERT and REGINA SAGOE

Mental models and their purpose

Climate change is a complex issue, and many lay people, not only those in the developing world, have difficulties grasping what exactly causes changes in the climate system and what the consequences of these changes may be. Yet, understanding the basic dynamics is important for adaptation decision-making. In other words, if one doesn't understand what to adapt to, choosing the most appropriate and timely proactive strategies and trade-offs becomes problematic, if not impossible.

In the context of the USAID-funded collective Climate Change Learning and Observatory Network Ghana (CCLONG), we have used mental models as a visual tool that allows various stakeholders to depict how they understand drivers and impacts of climatic changes.[1] Four researchers, including three students, from the Regional Institute for Populations Studies at the University of Ghana, the main partner on the CCLONG project, were trained to construct and discuss such mental models with community members, agricultural extension agents, and district-level policy makers in Ghana. This participatory tool provides an opportunity to make visible the connections between local and global factors (drivers) that shape changes in rainfall and temperature patterns as they have been observed at the local level. At the same time, the concept maps permit outside agencies such as researchers and NGOs to identify potential knowledge gaps that then can be filled in ways that enhance not only placed-based understandings of complex processes but, ultimately, adaptive capacity.

The process

We have employed mental models with nine farming/fishing communities, 20 agricultural extension agents, and 12 governmental representatives at the level

[1] Mental models are described as psychological representations of 'problems' in the form of conceptual maps of ideas. See Bostrom *et al*. (1992 and 1994) and Zaksek and Arvai (2004).

Photo: Regina Sagoe

Participants add a factor to their mental model, Xedzodzoekope, Kwahu North, Ghana.

Box 1: Expressions for climate change

In Ghana, there is no one expression in the local dialects of Twi, Ewes, Nafaara/Banda, or Kusaal that captures the notion of climate change; hence, a short descriptive term is needed. In Xedzodzoekope, we used *XeXeame fe totro* (Ewe dialect), in Bawku East, *Tinga sameya* (Kusaal dialect), in Tain District, *Wangra chine* (Nafaara/Banda dialect), in MemChemfre, *Reyifi fe totro* (also Ewes dialect but a slightly different notion of climate change), and in Akyemfour, *Ewuim nsakraye* (Twi dialect).

of district assemblies in three project areas in Ghana:

- Kwahu North (including the communities of MemChemfre, Xedzodzoekope, and Akyemfour and the district capital Donkorkrom);
- Wenchi and Tain Districts (villages of Buoku, Asuano, and Bofie, as well as the town of Wenchi); and
- Bawku East (communities of Kaadi, Denugu, and Pusiga).

Between July 2007 and July 2008, a total of 18 mental models were produced with:

- large groups of up to 30 people, both men and women, during community focus group discussions; and
- small groups, pairs, or individuals, especially in the case of policy makers and extension agents.

Step one

The activity starts with a brief conversation or revisiting of previous discussions on climate change. Participants either draw a symbol to represent climate change or write in their local language on a large post-it note. This central post-it note is placed in the middle of a large sheet of paper and serves as the starting point for the mental model activity. Since there is not always an expression for 'climate change' in the local language, a short description, agreed with community members, may be needed (see Box 1).

Step two

Participants are then asked to identify all factors and processes that they believe cause climatic changes. Each factor is written or drawn onto a separate post-it note, and placed on the left-hand side of the sheet. A chain of effects or processes can be identified by linking specific causes through arrows. We ask participants to distinguish between factors and processes that are brought about by people and those that are outside of human control.

Step three

When all causes (drivers) are identified, participants are encouraged to identify the consequences of these changes, both for people and the environment, and add them to the right-hand side of the sheet. These consequences or impacts may be positive and desirable or negative and harmful. Again, each impact or effect is written or drawn on a separate post-it note. Additional arrows should be added between factors that are related to each other.

Step four

Once the entire mental model is completed, the last step is to reflect upon strategies that people currently use or have

Photo: Regina Sagoe

A pictorial mental model, Kaadi, Bawku East, Ghana.

used in the past to:
• reduce the negative impacts of climatic changes; and
• enhance the desirable consequences of change.

What do mental models tell us?

Interestingly, most participants at the community level first cited God or Allah as being responsible for changes in rainfall patterns. These changes are typically believed to be connected to some sinful behaviour of humans. In the absence of good communication and awareness-raising tools and material on climate change, people in Ghana's rural areas rely on their own frames of reference to justify processes that they do not fully understand or that are beyond their control. The second most-often elicited causes were local deforestation due to industrial logging and small-scale charcoal production, intensive cropping and land degradation, and bushfires. Only in rare cases could participants link locally observed changes in rainfall patterns with larger-scale drivers, such as emissions (referred to as 'smoke') from cars and industries. However, most community members believed that these drivers were all home-grown and that emissions from factories and vehicles as far as Europe or the US could not possibly influence the climate in Ghana.

This overemphasis on local-level drivers of climatic changes, we believe, is largely

Photo: Petra Tschakert

The coordinating director at the district assembly working on a mental model, Donkorkrom, Kwahu North, Ghana.

rooted in the old desertification discourse. Over the last 25 years, rural populations in West Africa were told over and over again that they were responsible for the devastating droughts in the 1970s and 1980s due to poor land management practices, including the cutting of trees, bushfires, and dwindling fallow periods. Many community-level participants are convinced that these practices have resulted in fewer and fewer trees. In their minds, fewer trees can no longer effectively 'catch' or trap the clouds through their high-reaching canopy, which causes shortages in rainfall. Today's environmental villains mentioned during the mapping activity were charcoal producers, bush hunters, farmers during land preparation, and herders setting fires for new pastures. While attempts to improve and enforce environmental regulations at the local level are both laudable and crucial for sustainability, repeated blaming of local mismanagement distracts from much larger problems, most of them originating in the North. Excessive fossil-fuel burning, large-

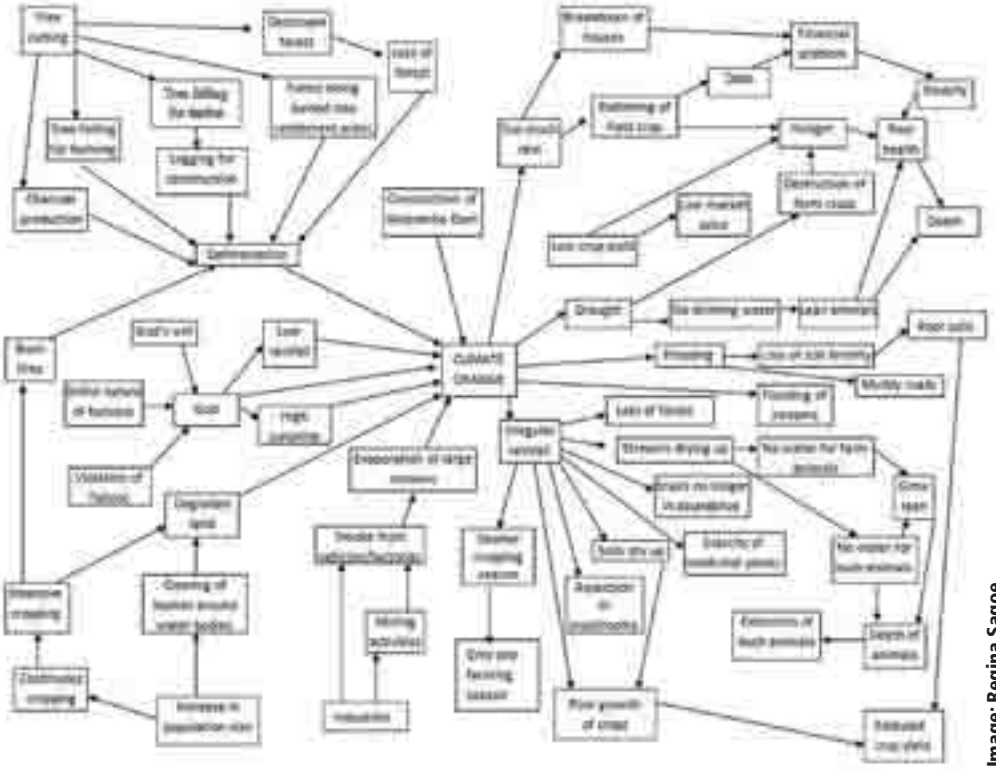

Image: Regina Sagoe

Aggregate mental model from communities in Kwahu North, Wenchi/Tain, and Bawku East.

scale industrialisation, and extensive tropical deforestation continue to remain outside of rural people's empirical radar.

Not surprisingly, we found that agricultural extension agents and governmental officials were generally better informed about, and could more readily comprehend, these global linkages. For instance, there was a broader understanding of the role of gases, pollution, and vehicle emissions in global warming. Some knew about greenhouse gases such as chlorofluorocarbons in old refrigerators and methane from livestock. Others cited volcanic eruptions as contributors to climate change. There was, however, some confusion regarding the difference between climate change and ozone depletion. One agricultural extension agent was absolutely convinced that climate change was caused by spaceships that drive holes into the ozone layer and hence allow more sun rays to reach the earth.

With respect to consequences of climate change for people and the environment, all participants listed negative impacts first. These were roughly evenly split between drier, wetter, and more unpredictable conditions for agricultural activities, resulting in lower crop yields, hunger, poor health, and potentially death. On the positive side, people envisioned more fish and increased availability of drinking water under wetter climatic conditions. Extension agents and governmental representatives also stressed sea-level rise and flooding, migration, and species extinction. Surprisingly, the large majority of strategies that participants proposed to deal with observed changes focused on planting trees, constructing drainage systems and dams, storing food, and preventing deforestation and bushfires. What most participants did not mention, not even extension folks and policy makers, was the need for better climate forecasts. Preparing for climatic extremes and

embracing some of the uncertainty involved in projections is at the core of successful adaptation. Much more needs to be done to increase awareness on this front.

Advantages of mental models

Participatory mental modelling can be used in both literate and illiterate contexts. The colour post-it notes and markers keep track of every element that is mentioned and, hence, make the entire activity very transparent. At the same time, mistakes can be easily corrected by moving the post-it notes on the paper. How much information emerges during the mapping and the deliberation depends on the skill of the facilitator in terms of how well s/he encourages participants to identify specific reasons for and links between empirical observations. Depending on the detail of the discussion, the activity may last up to three hours.

The mental model has proven to be an exceedingly helpful tool to make apparent the complexity of climatic changes. It not only allows local stakeholders to engage in sometimes heated discussions about who is responsible and accountable for these changes; it also encourages participants to think about the possible control and predictability of the consequences. As long as people retain a fatalistic attitude – often because they lack access to appropriate information materials and wider communication channels and platforms about climate change – community-based adaptation will continue to be an enormous challenge, especially among the most vulnerable populations. Even if subsistence farmers, herders, and fishermen have no control over most larger-scale driving forces (such as emissions from cars and industries in the North), a better understanding of the mechanisms behind these drivers of change can enhance confidence in anticipating future changes. The maps developed by agricultural extension officers at district level are proving useful in monthly trainings organised for their field assistants who give technical assistance to farmers.

Such conceptual maps are also highly useful for facilitating the merging of different knowledge bases. While community members and other local stakeholders lay out how they believe climatic changes occur, they typically request more detailed information from outside 'experts'. Although extension agents and governmental employees tend to know more about climate change, their knowledge revealed some major gaps as well. Hence, researchers or NGO staff carry a significant responsibility, especially if the level of community awareness is very low. The situation becomes tricky, however, when participants presume that a more detailed understanding of causes and consequences of climatic changes will allow 'experts' to predict when the next rainy season will start and how long it will last, and whether or not there will be a drought. This, of course, is not possible. What is crucial is that outside researchers or facilitators admit where their knowledge ends while complementing and/or correcting community perceptions, without overwhelming less informed individuals with complex details.

While such conceptual mapping represents a tool that can be easily employed as a stand-alone activity, we strongly recommend that it be complemented by an awareness-raising exercise, during which misconceptions can be addressed and corrected. This is best achieved through collective learning activities such as workshops, radio programmes on local FM stations, or hands-on experiments like simple rainfall monitoring that encourage community members to grapple with the complexities of climate change and move from observations to adaptive actions (see e.g. Awuor and Hammill, this issue).

In the CCLONG project in Ghana, we have used the results from these mental models to prepare Open Days on climate change in 2009 in two district capitals, Donkorkrom and Wenchi. Our aim was to explain greenhouse gases, atmospheric circulation patterns, and climate projec-

tions in a way that added to people's conceptual maps and could boost their capacity for adaptation. So far, even seasonal climate forecasts are barely accessible to rural decision makers in Ghana. Much more needs to be done to effectively communicate content, interpretation, and limitation of short-term forecasts and longer-term, down-scaled projections. This also implies better collaboration between researchers, meteorological agencies, NGOs, media people, and rural extension services. The USAID-funded Open Days were a much-appreciated effort in the right direction.

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Child-friendly participatory research tools

14

by GRACE MOLINA, FATIMA MOLINA, THOMAS TANNER, and FRAN SEBALLOS

Introduction

Field-based action research on community-based adaptation to climate change needs to engage with all different sections of communities. Children form a significant group that is often overlooked by research and practice at community level, in part because of a lack of appropriate action research tools. In this short piece, we describe some tools for child-friendly participatory research that were used in the Philippines.[1]

In general, we found that child-friendly action research is most successful when:

- Cultural norms and the age range of participants shape the research design.
- Research methods are focused on having fun.
- Activities are carried out in small groups, so that individual children feel confident enough to participate.
- Methods are iterative, allowing children themselves to shape and change them.
- Researcher intervention is limited to an explanation of the tool or method.
- A mix of oral, visual, and written activities is used. These help children to express their perceptions, experiences, and ideas concerning hazards, vulnerabilities, and capacities.
- Children also gain from the experience of participating in the research.

Using child-friendly tools

- Organise the children into small groups. Whenever possible, group by gender and age to highlight differences between male and female, and older and younger children.
- Facilitate icebreakers between sessions to keep the group energetic, develop confidence, and to introduce the tools and methods.

Some useful tools for working with children are shown in Table 1. Whilst many of these will be familiar to practitioners, we

[1] For more details of our work in the Philippines and El Salvador, see Tanner *et al.*, this issue.

Table 1: Some participatory tools for working with children

Tool	Application
Mapping	Risks (hazards, vulnerabilities, capacities) Stakeholders Communication pathways
Ranking	Risks, adaptation, and risk management actions
Drawing	Visioning exercises for their future and that of the community Feelings Motivations for participation
Transect walks	Risk identification Action plans
Acting and theatre	Re-enacting impacts of disaster events and responses, as well as for advocating for behavioural and policy change by others
Pyramids	Visual representation of pathway from problem to action
Races	Rapid identification of benefits of different actions
Participatory video	Research into problem, awareness-raising, advocacy process

found that they often had to be adapted to make them more child-friendly. Children were invited to invent and adapt tools and methods.

Icebreaker – typhoon massage

Icebreakers can range from high energy introductory games linking names and dance moves to topic-related exercises such as the 'typhoon massage'. The group stands in a circular line. As the leader calls out local geographies and different typhoon stages, the group give and receive 'typhoon massages' on each other's backs. Different areas of the back represent the three areas of the Philippines: Luzon in the north (shoulders), the central Visayas (central back) and Mindanao in the south (lower back). The massage 'style' is linked to typhoon development phases:'early rain' (tapping fingers), 'heavy rain' (chopping motion), and 'storm' (drumming of knuckles).

Stakeholder analysis and mapping

Standard stakeholder mapping requires participants to first understand the concept of what a stakeholder is. A Venn diagram approach is then used to represent the power/influence of different 'stakeholders' using larger or smaller circles. The location of the circle on a 'map' reflects the degree of involvement each stakeholder has with the group. The Venn diagram represents both parameters simultaneously by drawing the appropriately-sized circle at a representative location directly onto the map.

However, in the Camotes Islands, children had difficulties in understanding the linked concepts of 'stakeholder', 'power' and 'involvement'. This led to researchers introducing a 'Me/We map' and developing a revised step-by-step approach to the mapping (see Figure 1).

Figure 1: The 'Me/We' map

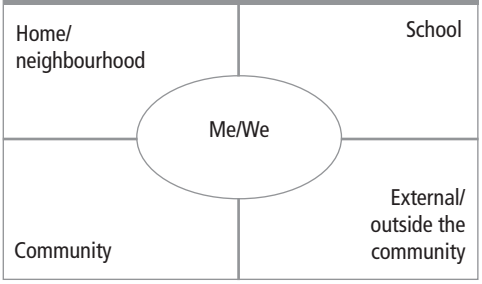

Photo: Grace Molina

Regular icebreaker sessions keep the group energetic.

• Divide some paper into four quarters, with a representation of the children's group at the centre. Label each quarter with a space of interaction such as the home, the community, the school, and those beyond the community. Ask the children to record the people they interact with in these spaces, revealing all potential stakeholders.
• Using the map as a guide, children can then represent the influence or power of each stakeholder in relation to the group by recording them on to colour-coded cards.
• Once completed, these cards can then be reallocated in a single line, with the proximity to the individual or group (the Me/We) reflecting the degree of involvement of the stakeholder.

Risk and activity ranking exercises

Ranking exercises allow children's group participants to identify their priority issues which need to be addressed.
• First, write down each hazard on separate cards, e.g. landslides.
• Then place these on a 3x3 grid that requires the children to consider both the impact of the hazard and the frequency of its occurrence (each divided as high, medium, and low).
• Next, give each child three votes and ask to them vote individually for the hazards they feel pose the greatest risk to them.
• Finally, ask the children to list activities they have undertaken in response to the highlighted hazards.

By generating this grid and list, children are able to consider the full range and impacts of their disaster risk reduction (DRR) and adaptation activities, consider their long-term plans, and discuss new initiatives that might help in dealing with risks. We found the exercise particularly useful in highlighting activities where there were multiple risk reduction and adaptation benefits, for example, mangrove reforestation.

Benefits races

'Benefits races' allow small groups of children to rapidly develop ideas and generate research results. In the Philippines, a benefits race challenged children in different teams to write down as many perceived advantages of different adaptation and risk reduction options as possible. Feedback suggested this was among the favourites of the children because it was exciting and lively.

Photo: Grace Molina

Hazard and risk ranking exercises in Lower Poblacion, Philippines.

Identifying messages through visioning

A drawing activity aimed to highlight messages that children convey in order to enable adaptation and risk reduction actions.

- Ask the children to draw their vision of the future for their community and their own lives after they have successfully delivered their DRR activities.
- Then ask them to identify what is different in their picture to the current situation.
- The drawing helps to stimulate creative thinking about what they are trying to achieve, why it is important, and what else needs to happen to help them deliver their future community.
- It enables the children to identify messages they want to raise with stakeholders – from community to national levels – who can provide support towards the realisation of their envisioned community.

Following the drawing process, children in Catig, Lilo-an, Southern Leyte recognised that their coastal clean-up activities were aimed at increasing the fish population and improving livelihood sustainability (message for fisherfolk associations and to obtain local government support) but required everyone in the community to participate in proper waste management and segregation activities (message for family and the village council).

Building pyramids and validating communication pathways

During the second fieldwork phase, data gathered from earlier visits was used to map communications pathways from risks through to actions, key messages needed to promote change by other stakeholders, through to forms and barriers of communication.

Photo: Fatima Molina

Benefits race exercise, Villahermosa, Philippines.

One method used with child participants to illustrate this flow graphically was an iterative process to develop a pyramid form. The pyramid was a means of representing and verifying key messages related to child-led and child-friendly priority activities in each community. The pyramid briefly showcases:

• the purpose of the endeavour through the identification of the prioritised risk reduction goal (single top level);
• the key causes of the risks: social, economic, or natural (second level);
• the identification of the key impacts of the risk e.g. increased habitat for mosquito breeding or the benefits of achieving their goal e.g. no habitat for mosquitoes to breed (third level); and
• the DRR activities that groups already undertake to achieve their goal (baseline).

Through the visual representation, children are given an avenue to further think about information that might be missing. This helps pave the way to determine clearly the communication pathways of children and youth by helping participants to recognise:

• their sources of information and knowledge relating to each cause, impact, or benefit; and
• the target recipients of their messages which will differ according to whether they are communicating cause, impact, benefits of action, or a combination.

The use of these tools helps to foster a two-way learning for the researchers and young people in the field of DRR and adaptation. Its participatory and interactive nature allows each participant to share his or her thoughts and at the same time gain awareness from others' experiences and insights. It also provides space to explore

Photo: Fatima Molina

Drawing for visioning exercises, Catig, Southern Leyte, Philippines.

further opportunities to continuously strengthen and sustain efforts to improve safety, sustainability, and community resilience.

Ranking enabling and limiting factors

One way to further support children in realising their role as change agents is by identifying and ranking factors that can enable or limit their capacity to act.

- Phased research means common factors can be identified from early phase outputs of multiple (single country) research sites.
- During follow-up phases, children arrange the set of factors from the most significant to the least.
- Children must be given the freedom to remove factors which are not relevant to their context or add those which have not been included.
- This allows children to see which issues they need to address as well as what resources they need to strengthen their ability to undertake development-oriented initiatives, including disaster risk reduction (DRR).

Common factors which limit Filipino children's participation and engagement in development-oriented initiatives included lack of finance, lack of confidence, and a lack of adult understanding of their goals. These are areas that they now plan to address.

Other tools for creative expression

The research also facilitated a variety of spaces for children to express their views and ideas. In one exercise, sheets of paper and drawing equipment were provided and participants were asked to draw their motivation for participating in the youth groups and their activities. Presenting these pictures back to the group stimulated discussion as well as highlighting the diversity of motivations for participation. Researchers also joined in, drawing their motivation for undertaking the research.

Similarly, children were invited to create songs or poems about their activities, and act out different disaster impacts and responses (see Tanner *et al.*, this issue). Like participatory video activities (see Plush, this issue), these provided a method both for discussion and learning within the children's groups, but also a tool for advocating change in others. Feedback from these activities suggests that the children gained as much from the process of such creative expression as they do from the finished product itself.

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NOTES
For further information about work on children, disaster risk reduction, and climate change adaptation, including an annotated bibliography, please visit: www.childreninachangingclimate.org

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ACKNOWLEDGEMENTS
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Participatory scenario development for climate change adaptation

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by LIVIA BIZIKOVA, THEA DICKINSON, and LÁSZLÓ PINTÉR

Introduction

A growing number of studies on the impacts of climate change and potential adaptation options are becoming available. However, they commonly fall short on integrating climate change impacts and adaptation options into development choices and priorities, as well as lacking proper descriptions of the influences that different development options might have on adaptation and adaptive capacities. Scenario development methodologies provide a useful way of exploring future development choices and pathways and the impacts of climate change and adaptation options, as well as the forms of policy or investment support needed to facilitate effective adaptation. They provide a means for policy makers and service providers to take into account local people's priorities and knowledge in their decision-making.

Participatory scenario development

Scenarios are neither predictions of socio-economic development nor impacts of changing climate; rather they are plausible descriptions of how the future might develop, using current information and assumptions about future trends. They also help to explore the differing outcomes that might result if basic assumptions are changed (UNEP, 2002). In order to fully explore opportunities from scenario approaches, growing attention is being devoted not only to the developed scenarios, but also to the scenario development process. This includes an increasing emphasis on stakeholders' involvement in developing scenarios – referred to as participatory scenario development (PSD).

Currently available studies show differing degrees of participation in scenario development, varying from involving stakeholders as reviewers of the scenarios developed by climate change 'experts' to having stakeholders develop and assess the feasibility of the scenarios. We found the most effective process to be one which brings together stakeholder and 'expert' knowledge. This includes:

• involving stakeholders in creating locally relevant responses that are the **combination**

Photo: Livia Bizikova

Figure 1: Scenarios created during PDS workshops in Hungary (Lake Balaton region), using collage technique.

of development choices, adaptation options, and capacities;

• creating learning opportunities for stakeholders about the impacts of a changing climate and their implications at the **local** level; and

• promoting collaboration between researchers and stakeholders to help balance the **biophysical** risks associated with climate change and **social** risks and issues, such as local well-being, access to basic services, employment, and food security.

Key steps in participatory scenario development

Combining qualitative stakeholder and quantitative scientific information (i.e., climate change projections and impacts) in PSD offers a unique opportunity to mix good data, scientific rigour, imagination, and expertise from different perspectives (Volkery *et al.*, 2008). The PSD consists of the following five steps:

Defining the scope of the scenario process: changing climate will affect diverse areas and sectors in different ways and the impacts will change with progressive climate change. A key question therefore is: under available projections of climate change, how might the community adapt its plans and policies to make the most of their potential future development?

Identifying key factors shaping local development: gathering information about the current system will help to frame what measures are feasible in the short- and long-term, and what the capacity gaps are with regard to development and adaptation needs. Key factors shaping local development could include key economic sectors, population changes and migration, access to basic services, poverty levels, and available infrastructure.

Developing scenarios: based on discussing how the identified factors will evolve in the future. This implies identify-

Photo: Livia Bizikova

Figure 2: Impacts of climate change on local environment and human well-being, adaptation options, and future scenarios in Southern Ghana.

ing a long-term target vision and options that trigger movement towards this moving target in a sequential fashion.[1] Only internally consistent combinations, i.e., those where developments in one factor do not contradict developments in another, are considered. For the development of scenarios, different techniques can be used, such as collages or index cards (Figure 1).

Reviewing scenarios: the identified scenarios should be carefully examined for their potential to determine climate change impacts on the attainment of local development visions. We used 'what if' questions to determine whether changes or trends in biophysical indicators such as future rainfall patterns, sea-level rise, or changes in the number of consecutive hot or cold days could be addressed within the scenarios. This included identifying the impacts of climate change on the local environment and human well-being, and then identifying adaptation options (Figure 2).

Strategy building: if we want to be effective in reaching the long-term vision, short- and long-term actions need to be identified. This includes identifying policies needed to create an enabling environment for moving from scenarios and identified adaptation measures to actions.

[1] A vision refers to a moving target guiding the self-organising, innovative forces of a society, forces that otherwise would remain diffuse. It differs from a goal in that it is a tangible image of a future society without being subject to fierce arguments about exact definitions that characterise the operationalisation of goals (Jaeger *et al.*, 2000).

Case study: PSD in Lake Balaton, Hungary

This case study was co-led by the research team and the local development agency – the Lake Balaton Development Coordination Agency (LBDCA).[2] The researchers provided information on climate impacts and adaptation, and guidance on the participatory sessions and synthesising the outcomes. The local development agency was responsible for identifying and gathering practitioners for the participatory activities, and communicating the outcomes to local NGOs, council members, and news channels.

Preparing for the PSD

Prior to the PSD session, we developed a series of participatory events to explore climate change impacts and adaptation. We started with an assessment of climate change impacts at 50 km2 resolution using already published projections for the country. This was followed by focus groups and brainstorming sessions to discuss what the local impacts could be. For example, the effects of the predicted drop in summer precipitation could lead to losses in agricultural production, decreases in water availability, and negative impacts on local biodiversity and on local business revenue. The participants helped to interpret downscaled model outputs and identified major consequences of the impacts in relation to other vulnerabilities that the region is facing. They drew on their own expertise and knowledge of the region, evaluating lessons learnt from past extreme weather events and sharing experiences about the effectiveness of past responses.

After gaining an understanding of the consequences of climate change at the local level, we held three participatory workshops in different locations in the area to identify adaptation options. We discovered that many adaptation options had already been implemented autonomously at the individual level, and the workshops provided opportunities to share the lessons learnt from this. In some cases, gaps and barriers in standards and codes that prohibited the use of local materials were identified, as well as complex approval procedures for measures that affected a number of sectors. The workshops also highlighted a lack of technical expertise that hinders putting potential solutions into action. We concluded these sessions with a list of priorities for action on adaptation.

The PSD workshops

The PSD one-day workshops included approximately 80 participants from local universities, high schools, local business organisations, farmers' organisations, municipal officials, local NGOs, and other community members.

The objective of the PSD was to create scenarios of potential development for key sectors of the local economy (including agriculture and tourism) while protecting biodiversity. Key factors that are important for the local economy and can contribute in developing adaptation actions and capacities were identified through stakeholder group consultations focusing on economic, environmental, and social issues. The key factors identified were:

- water resources management focused on policies influencing water level in Lake Balaton;
- agricultural practices, including planted species and available irrigation systems;
- economic performance of the agricultural sector;
- tourism development – represented by tourist nights per season, revenues, employment, and seasonality;
- shoreline property development; and
- biodiversity protection, including current population of protected species and sizes of habitat.

[2] Livia Bizikova and László Pintér were key members of the research team, which also included Dr. Anthony Lehmann from UNEP/DEWA GRID-Europe and University of Geneva, Dr. Karoly Kutics (K+KConsulting), Jill Jeager (SERI), and many others.

Current trends were then identified for the factors by analysing collected statistical data.

Focusing on these key factors, groups of stakeholders then developed future scenarios that were desirable yet plausible future pathways, attainable from the current conditions. The scenario process included creating a vision for the future of the key factors and identifying actions to reach these visions. Vision development was done in small groups of stakeholders of diverse expertise and affiliations using a collage technique (Figure 1).

Some of the identified actions included:
• protecting agricultural land and sensitive shoreline by limiting development;
• accelerating the use of local grape species and diversification;
• creating agricultural extension agencies and incentives for local markets; and
• development of small and medium enterprises, especially in towns with less intense tourism.

We then reviewed the scenarios, using 'what if' questions. For instance, can the projected further reduction in summer precipitation and increasing temperatures be addressed within the community's visions for the future? Local experts presented climate change projections relevant for the region and then groups of stakeholders indentified potential impacts and adaptations and then, in small groups, assessed whether these impacts and adaptations were included in the future scenarios.

Identified impacts included:
• changes in the volume, intensity, and timing of precipitation;
• decreased snowfall;
• critical water and heat stress on newly established vineyards;
• increased erosion;
• disturbances such as wildfire and insect outbreaks; and
• changes in vegetation growth.

A list of adaptation options in the context of regional agriculture were then added to the local scenarios:
• increased rainwater storage capacity to respond to the droughts;
• increased diversity of planted crop varieties and species, including those tolerant to heat and drought;
• increased emphasis on planting native and traditional species and varieties;
• more widespread use of mulching and permanent cover to increase moisture retention in soils;
• introduction of shade-producing plants to create sun shelters during heat waves;
• increased efficiency of irrigation techniques; and
• adjusted planting schedules.

Lastly, we followed up the scenario exercise with the development of policies and actions needed to support adaptation to climate change while moving toward the community's desired goals for the future. Short-term actions, for example, included increasing the efficiency of irrigation (including small-scale actions) and promoting local and traditional food production. Examples of long-term actions included developing a local food security strategy and making a long-term commitment to a restricted land-use policy to limit shoreline development and protect agricultural land.

PSD policy influence

The outcomes of the workshops fed into climate change adaptation policies in a number of different ways:
• some of the identified actions were included in the national climate change strategy;
• LBDCA changed its guidance for the evaluation of proposals for local development projects, so that any projects supported would fit with the short- and medium-term actions identified; and
• the workshop created additional pressure to move ahead with actions which had already been included in regional development plans but where implementation had been neglected, e.g. improving irrigation, reforestation, protecting agricultural lands.

Benefits and challenges of participatory scenario development

Based on our experiences, PSD provides an opportunity to integrate development priorities and plans with adaptation needs to address climate change and climate variability. The key outcomes include:

- Identification of development priorities and actions that need to be accelerated, because they also increase capacities for adaptation (e.g. improving healthcare services in areas prone to diseases because of changing climate).
- Identification of on-going development programmes and actions dealing with current impacts that need to be intensified and applied to other regions facing similar impacts in the future (e.g. rainwater collection is often a small-scale initiative, but could be expanded in areas where reduced rainfall is expected).
- Encouraging thinking about the community's future and eliciting valuable knowledge that local community members possess about climate change impacts and adaptation, even though those practices may not be explicitly recognised as helping to reduce vulnerability to climate change. Building on this familiarity helps to empower local communities and decision makers to engage in their communities' development, building resilience to climate change.

Several challenges exist when using PSD. One key challenge is to find ways of linking quantitative information about current trends and climate projections with qualitative scenarios, and transforming them into policies. Increased attention needs to be paid to maintaining the dialogue between researchers and community groups on the challenges and uncertainties of climate change projections and sharing information that can be used to advance adaptation and development despite existing uncertainties.

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Reflections on practical ethics for participatory community-based adaptation

16

extracts from ELKANAH ABSALOM *et al.*, and GIACOMO RAMBALDI *et al.*

Foreword

The following extracts come from two articles previously published in *Participatory Learning and Action*. Both extracts contain the same key message: that good participatory practice needs to be based on a solid foundation of practical ethics which focus on empowerment.

The first extract is from an article in *PLA Notes* 22, 'Sharing our concerns and looking to the future' (Absalom *et al.*, 1994).[1] Fifteen years ago, a group of Participatory Rural Appraisal (PRA) practitioners shared with readers a set of key guiding principles for participatory development practice.

The next extract is from an article published 12 years later. Here, we include a series of photos taken during a presentation by Robert Chambers on participatory ethics.[2] Robert's presentation became the basis for an article on practical ethics for participatory mapping practice (Rambaldi *et al.*, 2006). Included here is an adaptation of the 'Who?' and 'Whose?' questions from that article (see Box 1).

As we move forward with community-based adaptation to climate change, these guiding principles provide a timely and relevant reflection on good practice for participatory development.

Extract: Sharing our concerns and looking to the future

We are an informal group of development practitioners, researchers, and trainers from South and North, using, supporting, and developing participatory approaches, often

[1] Interestingly, issue 22 was the first issue in the series to be published under the new name of '*PLA Notes*' in 1994. The series had begun life in 1988 as '*RRA Notes*' (Rapid Rural Appraisal). This change demonstrated the evolution from RRA and then PRA (Participatory Rural Appraisal), through to the umbrella term Participatory Learning and Action (PLA), which encompasses a wide range of participatory approaches and methodologies.

[2] Robert's presentation was made at the Mapping for Change International Conference on Participatory Spatial Information Management and Communication, Nairobi, Kenya, September 2005.

known as Participatory Rural Appraisal (PRA). A working description of PRA is:

> *... a growing family of approaches and methods to enable local people to share, enhance, and analyse their knowledge of life and conditions, to plan and to act.*

Used well, PRA can enable local people, rural or urban, to undertake their own appraisal, analysis, action, monitoring, and evaluation. It can empower women, poor people, and disadvantaged people, giving them more control over their lives.

As part of a process of reflection, learning, and sharing we have reviewed our experience and current developments. Many donors, government organisations, and NGOs are now requesting and requiring that PRA be used in their programmes and projects. This brings opportunities and dangers. The opportunities are to initiate and sustain processes of change: empowering disadvantaged people and communities, transforming organisations, and reorienting individuals. The dangers come from demanding too much, in a top-down mode, too fast, with too little understanding of participatory development and its implications.

PRA practitioners have come to stress personal behaviour and attitudes, role reversals, facilitating participation through group processes and visualisation, critical self-awareness, embracing error, and sharing without boundaries. We believe that these principles and concepts must be placed at the centre of all participatory development activities. Experience has led us, and many others to recognise the implications of participatory approaches, such as PRA, for:

- personal and professional values, norms, and behaviour;
- community issues;
- organisational structures, styles, and practices of management;
- approaches and methods in training;
- networking and sharing between all actors engaged in the development and spread of participatory thinking and practice; and,
- the policies and practices of donors.

We recognise that we are only a few among many around the world who are striving to develop and facilitate the spread of participatory approaches. We offer this statement of principles in the hope that others will share their experiences, views, and values in the same spirit so that we can all continue to learn from each other. We welcome your responses.

Elkanah Absalom, Robert Chambers, Sheelu Francis, Bara Gueye, Irene Guijt, Sam Joseph, Deb Johnson, Charity Kabutha, Mahmuda Rahman Khan, Robert Leurs, Jimmy Mascarenhas, Pat Norrish, Michel Pimbert, Jules Pretty, Mallika Samaranayake, Ian Scoones, Meera Kaul Shah, Parmesh Shah, Devika Tamang, John Thompson, Ginni Tym, Alice Welbourn.
20th May 1994

Personal and professional

We strongly believe that, as PRA professionals, we bear a personal responsibility to:

- Develop a self-critical attitude, recognising that we are continually learning, and welcome rigorous peer review.
- Be explicit about whether we are eliciting information for external use, or are engaged in processes leading to community action. We should make this distinction clear to the people with whom we are interacting and document this accordingly.
- Interact with others (colleagues, community members, and other professionals) with respect and empathy, transparency, and support.
- Recognise the need to acquire both training skills and 'hands-on' experience in carrying out a PRA process in the field.
- Make a commitment to value equally the contributions made by all partners (South, North, local, external) and respect the need for diversity of others' views and approaches.

• Identify, in partnership with communities, appropriate forms of compensation when we are eliciting information for external use.
• Ensure that credit and compensation are given where due.
• Strive towards a process of empowerment of marginalised people, in which PRA methods can play a part.
• Attempt to link up with existing PRA networks and professionals in every context.
• Equip ourselves with any necessary skills to recognise, acknowledge, and address the existence of diversity of social relations in each context.

These are all signs of personal and professional commitment to pursue development processes which strive to improve the lives of those who are (relatively) marginalised.

Community issues

Ethics

In relation to interactions with communities, we strive to:
• achieve mutual respect, including a commitment to long-term partnerships;
• be honest with ourselves about our own objectives; and
• be open, honest, and transparent about our objectives with all community sections.

Equity

We recognise that:
• Different groups, as defined locally by age, gender, well-being, ethnicity, religion, caste, language etc. have different perspectives.
• There should be commitment by outside organisations to understand different needs and multiple perspectives within communities.
• Responding to the needs of the vulnerable involves respect for all groups. This may mean challenging asymmetrical relationships via conflict resolution methods.

Preconditions for engagement

• Be honest with the community about what is in it for them.
• PRA activities should lead to direct improvements in the community through:
  • Operational development on the ground.
  • Changes in higher level institutions (such as research, extension, and planning) which have an impact at community level.
  • Shifts in policy, which have an impact at community level.
  • We should also acknowledge that some of these expected changes cannot be guaranteed.
• There should be no one-off exercises in communities without explicitly defined outcomes as described above.

Practice

• The process with the community should begin with explanations and seeking their permission.
• Timing and pace should be governed by local context of separate sections of the community.
• Respect the fact that information is generated by local people and so ask their permission to document, remove, and use information. When possible, ensure that original diagrams and copies of reports remain in the community.

Local human resource support and development

This involves a commitment to:
• enhance capacity of local people, on an individual as well as an institutional basis, to be PRA practitioners and trainers in analysis and implementation of developmental activities in their own and neighbouring communities;
• ensure that PRA activities lead to strengthening of existing and/or formation of new local institutions, in order to meet local needs; and,
• ensure follow-up support for community sections and their institutions.

Institutional aspects

Long-term commitment to process

• Top managers/decision makers need to commit themselves to a long-term process going 'beyond projects' to promote a participatory development approach.

Organisational environment and culture

• The organisational culture should provide opportunities to enable learning from experiences and mistakes, and should be flexible enough to allow experimentation.

Institutional management and styles

• There should be a transition from management styles based on hierarchy, inhibited communications, and command and obedience relationships to more organic styles that encourage lateral communication, collegial authority, and flexible roles and procedures.
• Institutions should create conditions that encourage employees to be participatory in their work with each other, and not just during 'field visits'.

Incentives/rewards

• Incentives and rewards must encourage staff to be honest, work in the field with communities, stay on as staff, and encourage joint action between institutions and villages.

Organisational procedures and implementation

• Organisational and programme management procedures should be changed so as to enable linking PRA with programme management and implementation (e.g. decentralisation of funds management). They should try to build PRA from the start of the programme cycle.
• PRA and related participatory processes should be initially piloted on a small-scale and should be mainly implemented through local institutions.

Outward linkages

• There is a need to develop effective linkages (e.g. training exchange, co-management of projects, information flows) outside of institutions to help partners (including donors) understand more and strengthen participatory processes. These linkages must be based on mutual respect, integrity, and trust.

Donors

Donors working with PRA should...
• focus on PRA as a **process** leading to change, not a product in and of itself (this means commitment to long-term development processes and follow-up activities and support);
• provide more flexible funding and move towards more open-ended, event-focused targets for disbursement and physical achievement;
• promote participatory monitoring and self-evaluation procedures which build in reciprocal accountability (communities, development organisations, donors);
• encourage and support organisations which can move towards participatory training and learning to help other organisations change;
• encourage policies and programmes which offer a range of development options/choices based on locally-defined criteria, needs, and priorities;
• encourage establishment of small, self-managed teams of practitioners and trainers within development organisations – where appropriate – with the freedom to experiment, innovate, make and learn from mistakes, and act;
• support pilot learning processes with gradual/phased scaling-up depending on local conditions; and,
• avoid confusing and over-burdening development organisations by harmonising funding approaches and accounting and reporting procedures.

Source: *PLA Notes* (1995), Issue 22, pp. 5–10, IIED: London

Extract: Practical ethics for PGIS practitioners, facilitators, technology intermediaries, and researchers

Box 1: Compilation of 'Who?' and 'Whose?' Questions

Stage I: planning

Who participates?
Who decides on who should participate?
Who participates in whose community-based adaptation process?
… And who is left out?

Who identifies the problem?
Whose problems?
Whose questions?
Whose perspectives?
… And whose problems, questions, and perspectives are left out?

Stage II: the participatory process

Whose voice counts? Who controls the process?
Who decides on what is important?
Who decides, and who should decide, on what to document and make public?
Who has visual and tactile access?
Who controls the use of information?
… And who is marginalised?

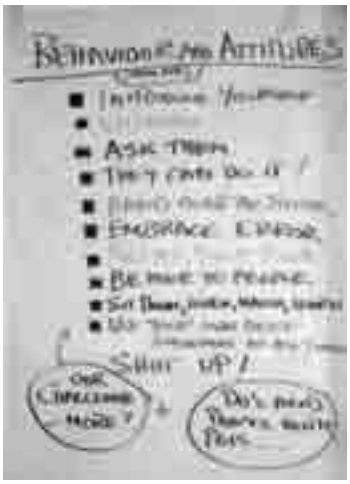
Whose reality? And who understands?
Whose reality is expressed?
Whose knowledge, categories, perceptions?
Whose truth and logic?
Who is informed about what is being documented? (Transparency)
Who understands the physical output? And who does not?
… And whose reality is left out?

Stage III: resulting information control, disclosure, and disposal

Who owns the output?
Who owns the resulting data?
What is left with those who generated the information and shared their knowledge?
Who keeps the physical output and organises its regular updating?
… And who does not?

Whose analysis and use?
Who analyses the information collated?
Who has access to the information and why?
Who will use it and for what?
… And who cannot access and use it?

Ultimately …
What has changed?
Who benefits from the changes?
At whose costs?
Who gains and who loses?
Who is empowered?
… And who is disempowered?



Work in progress: Robert Chambers' flipchart notes on behaviour and attitudes.

Photo: Johan Minnie/Jeroen Verplanke

Participatory mapping for good change: notes from Robert Chambers' presentation at the Mapping for Change conference, 2005.

Photo: Johan Minnie/Jeroen Verplanke

Source: adapted from Rambaldi *et al.* (2006)

The 'Who' and 'Whose' questions presented by Robert Chambers.

Building on the 'Who' and 'Whose' questions: discussion on participatory ethics.

Photos: Johan Minnie/Jeroen Verplanke

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TIPS FOR TRAINERS

17 Communication maps: a participatory tool to understand communication patterns and relationships

by SONAL ZAVERI

Introduction

Mapping relationships and communication are important for most development programmes. They teach us about who the participants are talking to, what they talk about, and how important it is. Asking is one way of finding out either through an interview or a questionnaire, or through group discussions. But these methods have their limitations. Not all relationships may be disclosed, the interviewer/facilitator may not be skilled in finding out information, and people may not feel like talking about it. When working with children and young people, it is even more difficult to elicit responses verbally.

Communication mapping is a participatory tool which is a simple and effective way to plot and understand how children communicate with the people in their lives. The tool was developed in Nepal while evaluating a school health programme, where children were taught simple health messages using the active learning methods of the Child-to-Child approach.[1] Children spontaneously communicated these messages to their friends, family, and community and practiced healthy behaviour in their daily life. The communication map has also been used in other programmes involving children and young people, in Africa and Asia, the most recent being a national Life Skills programme for children affected by HIV in India. It is a visual tool, easy to administer and children in different contexts and countries have used it. The tool can be used at the beginning and at the end of a programme, with an intervention and a non-intervention group providing concrete and quantifiable evidence regarding communication patterns.

Making communication maps

• Take half a sheet of chart paper (about 2 feet by 18 inches) and different coloured sketch pens. It is important to have large thick paper because children like to draw freely. Colourful sketch pens give expression to their feelings.

[1] See www.child-to-child.org/about/approach.html

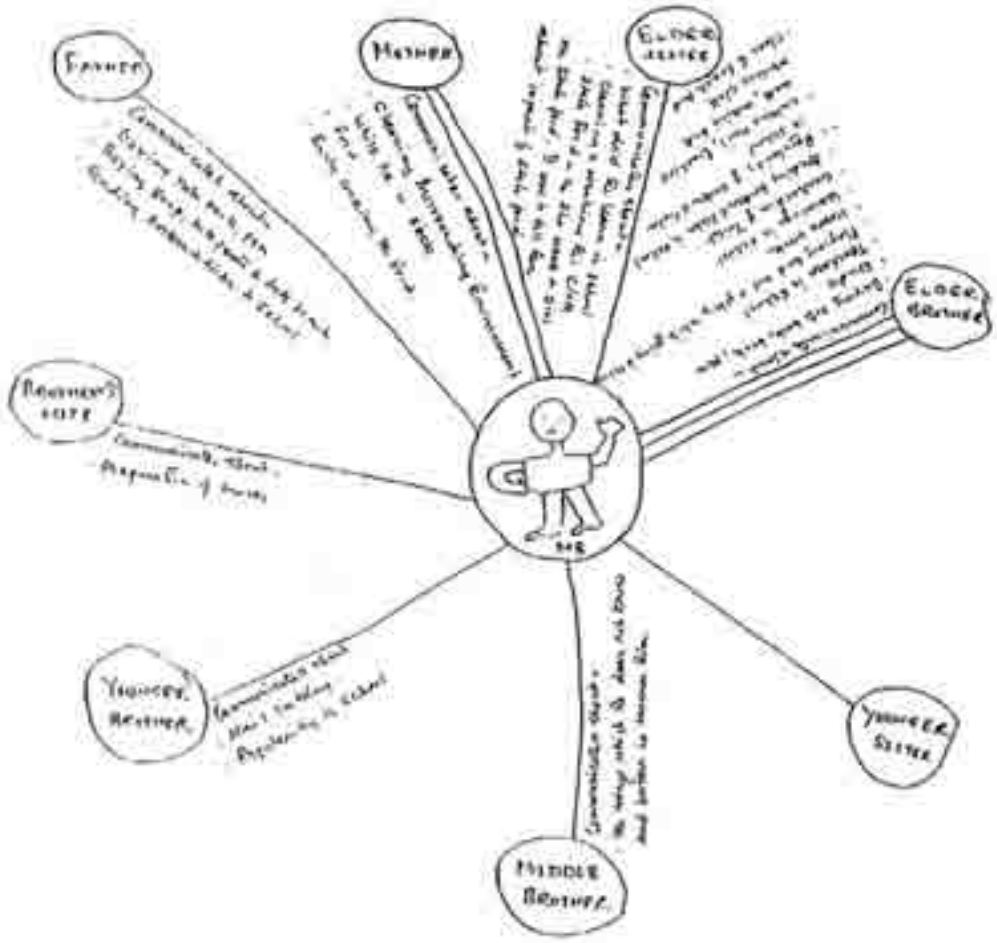

Figure 1: Map drawn by Janak, a Class IV student, Sindhupalchowk Nepal.

• Take the blank chart paper and with your hand make a circle in the air in the middle of the paper and say, 'Draw yourself in the middle here any way you like, you can write your name or draw yourself in the middle of this paper.'
• Next, place your hand at different parts of the paper saying, 'Draw or name all the people in your life. If you talk to them a lot, draw three lines from you to that person. If you don't talk much to them, draw one line and if you talk somewhat, draw two lines from you to that person. On the line, write what you talk about.'

I usually do not like to 'show' or demonstrate a communication map as children copy very easily. But by drawing in the air and using a blank paper, the instructions are easily understood without 'priming' children to copy. These instructions enable children to think unfettered and allow the free flow of their thoughts and expressions. I am always amazed at the variety of maps children make with these simple instructions.

A word of caution – children like to look over their shoulder at what their friends are doing and it is a good idea to have a large room where children can spread out and work on their own. In many cultures, children are expected to follow rules and behave in a defined way – that is why it is particularly important to emphasise and repeat in the instructions – **draw yourself and others anyway you like.**

Most children get engrossed quite quickly in the activity and it is likely to take anywhere from 30 to 40 minutes. Once children have finished, they may share their

Map drawn by Jyoti, a 13-year-old girl at Ankur Night Shelter, CCDT (India).

maps with the facilitator or their friends. Discussion and sharing illuminates much of what children have written, creating a better understanding for later analysis. Two of the most common comments I have received from facilitators are, 'I can see the child's life like a picture in front of my eyes' and, 'I have known this child for so long but never knew about all these relationships'.

Using the maps for evaluation purposes

The communication map has been used in evaluation. In our study in Nepal, we learnt that children were communicating about health to their parents and siblings and that there were gender differences. In other evaluations, a before/after design indicated that children of sex workers were communicating about their studies and life goals, were talking to neighbours without stigma, and had stopped communicating to those who 'used' or exploited them.

Because the map provides several dimensions of study, one can plot changes in:

- who children communicate with;
- how much they communicate (one line is the least, and three lines is the most); and
- what they communicate (topics and issues can be identified).

All these can be counted and quantified. If you are using a before/after design or a randomised controlled trial, it will be necessary to store the maps safely for later comparison with the maps drawn after the intervention.

Although this tool has been developed for children and young people, it has been used extensively during the training of facilitators and many field programmes have used it with parents of the children as well.

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Rivers of life

18

by ZIAD MOUSSA

Introduction

Rivers of life is one of the most powerful tools I have experienced in my professional life as a trainer and facilitator, as it helps groups to 'bond' quickly. It allows participants to reflect on personal experiences and influences that have motivated them in their personal and professional life. Participants are invited to use the symbol of a river to reflect on key stages in their lives, positive experiences and influences, and difficult challenges.

Preparation

As preparation, I suggest that you draw your own 'river of life'. Do this exercise with someone else if possible and share your experiences.

During the workshop, much depends on the space available. I have found that it is very useful to hang the flipcharts on the wall and let participants draw.

Time

- 15 minutes to prepare the 'rivers'
- Sharing depends on the time available

Photo: Ziad Moussa

Participants drawing their 'rivers' at the RCPLA workshop in Cairo, March 2008.

The time needed to share the results of the exercise depends on what you expect to achieve and how much time you have in your workshop. Ideally, it is advisable to share the outcomes of the exercise in a plenary session.

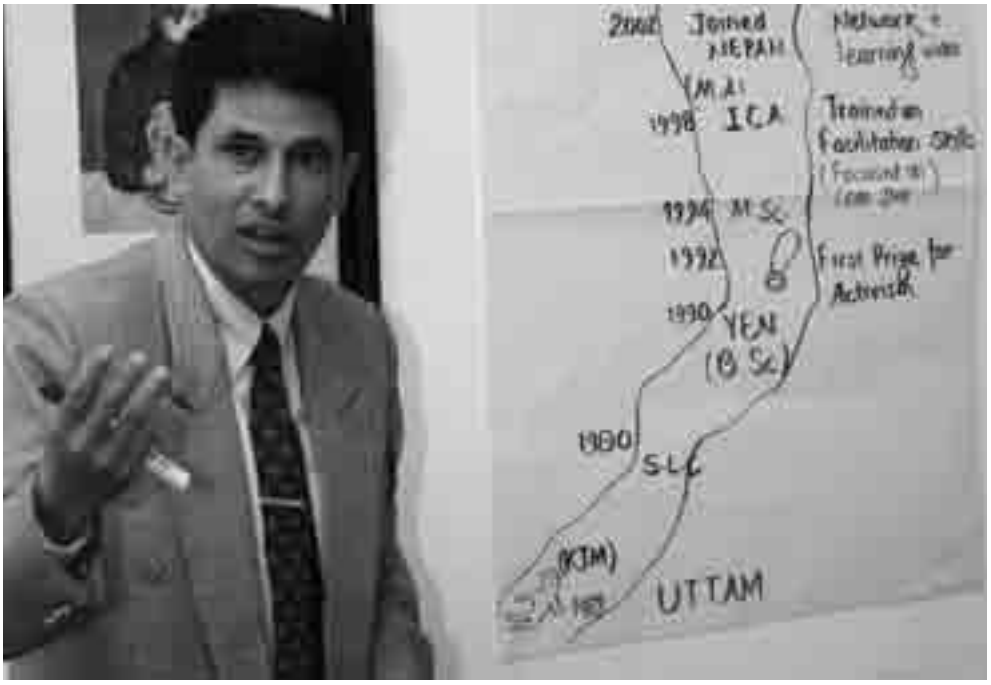

Photo: Ziad Moussa

Uttam Uprety from Nepal Participatory Action Network (NEPAN) presents his 'river' at the RCPLA workshop in Cairo, March 2008.

Apart from the 15 minutes needed to prepare the rivers, you need an average of four to five minutes per participant to present them. So if the group size is 12-18 you can do it in plenary but you would need to ensure very strict time keeping. For groups of 18 or more, you can divide them in smaller groups of 9-12 participants each.

Materials

- Blank piece of paper and pen for each participant
- Flipchart

Optional

- Multicoloured paper
- Coloured markers, crayons, pens
- Magazines, scissors, glue

Method

Step one

In this activity participants are invited to use the symbol of a river to reflect on their own personal lives. Explain that a river is a meaningful symbol in many cultures and that people may find it quite natural and stimulating to think of their own lives in terms of a river.

Step two

Ask each person to take a piece of blank paper and a pen (or for a more creative approach, provide them with additional materials).

Step three

On the flipchart write the following:

- River of life: key stages in your life
- Tributaries: positive experiences and influences
- Rough waters: difficult challenges

Step four

Demonstrate how you might draw the river, tributaries, and rough waters and then ask each person to draw their own. Various points on the **river** represent significant stages in one's life:

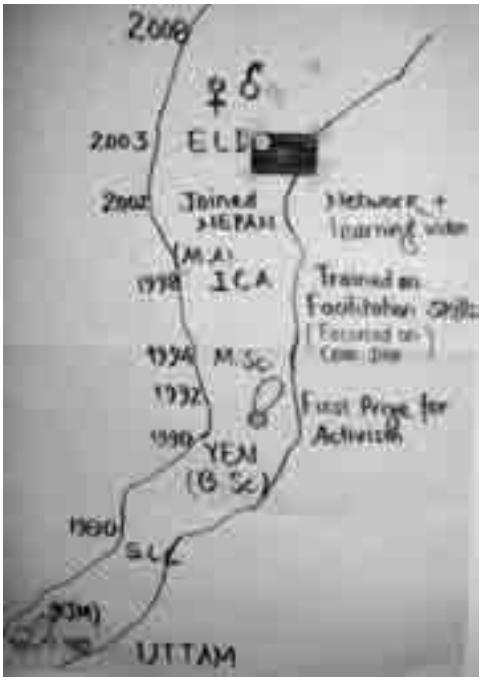

Photo: Ziad Moussa

A typical 'river', where the participant chose to benchmark his river along key dates in his life.

Photo: Ziad Moussa

An example of how a team has drawn their rivers in parallel to each other's.

• **Tributaries** are drawn to indicate key influences (e.g. people, education, books, experiences, events, etc.) that have contributed directly or indirectly to their lives and work.
• **Rough waters** in the river illustrate times when one has encountered difficult challenges in life that have potentially been the source of valuable learning.
• The river can run straight or it can twist (e.g. on **turning point moments** in one's life). It can also become narrow or widen, depending on the horizon perspective at a particular moment in time.

Step five

Encourage participants to be as self-disclosing in this exercise as they are comfortable with. Explain that they will be asked to share some of these experiences either in small groups, or in plenary.

Step six

Allow five to seven minutes for drawing the river. If using additional materials (e.g. images from magazines), allow more time for cutting and pasting. Encourage the group to be creative, for example, use colours to express different moods at different periods of their lives. I sometimes ask the participants to dig in their pockets and stick on the drawing pictures of themselves and their families, business cards, souvenirs, etc.

Step seven

Discuss the rivers in plenary. Each participant explains her/his river while standing next to it and the other participants can move around the room as the rivers are being presented.

Step eight

To close the activity, emphasise the wealth of experience that is gathered in the room. For example, you can ask the participants to highlight how many years of experiences they have and sum them up collectively… they can add up to many centuries. You can also mark on a roughly drawn map of the

world the countries in which the participants have lived, studied, and worked. The result can be impressive too!

Variation

Many people view their life as a 'pathway' or 'roadway' rather than a 'river'. As facilitator, it is important to be flexible to see which metaphor works best for people. Also, some participants may not feel comfortable drawing. Have them write out their river of life rather than draw it.

Another variation of the exercise when participants are part of a team, is to ask the team to draw their rivers in parallel and make the rivers meet when the participants came across each other.

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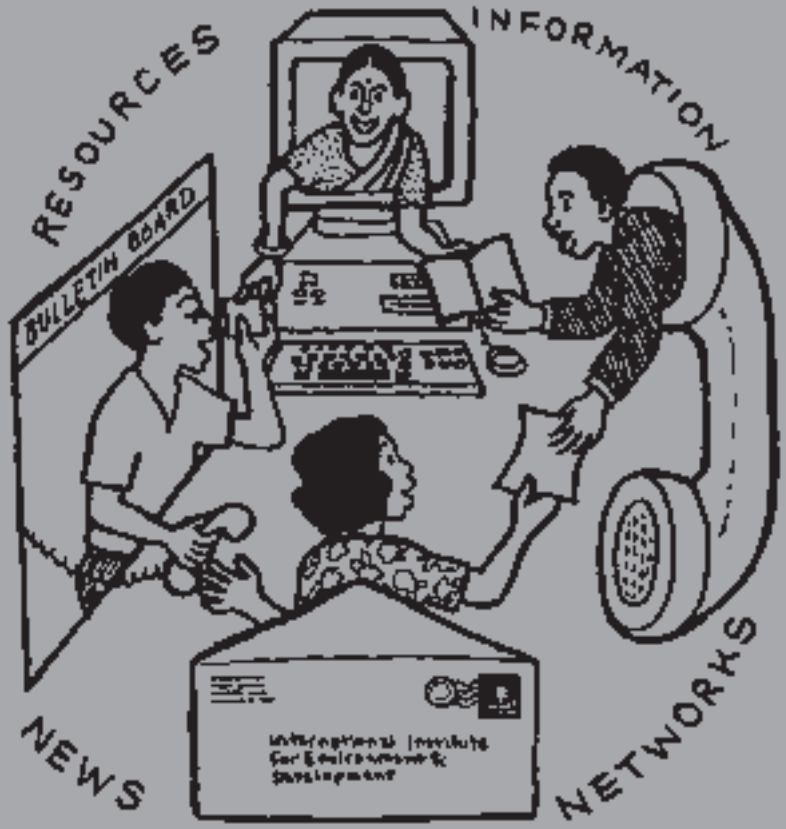
ACKNOWLEDGEMENTS
Adapted from 'River of Life' exercise in Community Organizing curriculum published by New Mexico Department of Health, Public Health Division, 1994.

IN TOUCH



Welcome to the In Touch section of *Participatory Learning and Action*. Through these pages we hope to create a more participatory resource for the *Participatory Learning and Action* audience, to put you, as a reader, in touch with other readers. We want this section to be a key source of up-to-date information on training, publications, and networks. Your help is vital in keeping us all in touch about:

- **Networks**. Do you have links with recognised local, national or international networks for practitioners of participatory learning? If so, what does this network provide – training? newsletters? resource material/library? a forum for sharing experiences? Please tell us about the network and provide contact details for other readers.
- **Training**. Do you know of any forthcoming training events or courses in participatory methodologies? Are you a trainer yourself? Are you aware of any key training materials that you would like to share with other trainers?
- **Publications**. Do you know of any key publications on participatory methodologies and their use? Have you (or has your organisation) produced any books, reports, or videos that you would like other readers to know about?
- **Electronic information**. Do you know of any electronic conferences or pages on the Internet which exchange or provide information on participatory methodologies?
- **Other information**. Perhaps you have ideas about other types of information that would be useful for this section. If so, please let us know.

Please send your responses to:
Participatory Learning and Action, IIED, 3 Endsleigh Street, London WC1H ODD, UK.
Fax: + 44 20 7388 2826;
Email: pla.notes@iied.org

Book reviews

CLIMATE CHANGE

Tiempo – a quarterly bulletin on climate and development

● *IIED and SEI*

This quarterly bulletin on climate and development is published each quarter by IIED and the Stockholm Environment Institute. It covers global warming, climate change, sea-level rise, and issues related to climate change in the developing world. Articles are contributed by writers from developing countries. To download copies and for more information visit www.tiempocyberclimate.org/portal/bulletin.htm

For francophone readers, *Tiempo Afrique* is now available in French through ENDA Tiers Monde in Dakar, Senegal. This has a regional West African focus. Contact: enda.energy@orange.fr or visit the website: http://endaenergy.org/2008/11/13/tiempo-afrique

Joto Afrika

● *ALIN and IDS*

Joto Afrika – Swahili for 'Africa is feeling the heat' – is a new series of briefings and online resources about adapting to climate change in Africa. The journal is produced by the Arid Lands Information Network (ALIN) in Kenya in partnership with AfricaAdapt and the Institute of Development Studies, UK.

Joto Afrika focuses on thematic areas around climate change adaptation and development. It draws lessons, experiences, and practical information from across sub-Saharan Africa. Written in a clear, easy-to-read style, it includes summaries of academic research on climate change, case studies of community-based knowledge and action in response to climate change, and feedback from readers. It targets NGOs, government officials, researchers, decision makers, planning departments, CBOs, and all individuals in Africa who need to know about climate change adaptation at the regional and local level.

The first issue, edited by Victor Orindi from the International Development Research Centre in Nairobi, Kenya, looks at climate change and African food security and was produced in June this year.

Visit ALIN's website for more information: www.alin.net

Understanding Climate Change Adaptation: lessons from community-based approaches

● *Jonathan Ensor and Rachel Berger*
Practical Action Publishing, 2009
ISBN: 978 1 85339 683 0

Co-authored by one of the guest editors of this issue of *Participatory Learning and Action*, this book is an important and timely contribution to the climate change adaptation debate, providing both analysis and experience from practice.

The introduction locates community-based adaptation in the broader context of ongoing development challenges and international negotiations.

The main body comprises a series of case studies of adaptation projects, which seek to clarify the meaning of adaptation and draw lessons for practitioners and policy makers. Each chapter has been prepared with the participation of one of the team members that undertook the project work. The chapters contain a section on lessons learnt to give a frank discussion of what worked well, as well as any weaknesses that emerged.

The concluding chapter examines the relationship between reducing vulnerability to climate change, building adaptive capacity, and strengthening resilience. It also addresses the challenges of scaling up adaptation projects, noting the necessity of addressing existing policies, politics, and power relationships if communities are to be empowered to identify and develop appropriate responses to the challenges of climate change.

Available from Practical Action Publishing:
www.practicalactionpublishing.org

The Earthscan Reader on Adaptation to Climate Change

Edited by E. Lisa F. Schipper and Ian Burton
Earthscan, 2009
ISBN 978 1 84407 531 7

This reader opens with a chapter on the origins, concepts, practice, and policy of adaptation and continues with contributions from many climate experts exploring the theory of adaptation, offering a collection of some of the most significant writings on adaptation to climate change from the past two decades.

The book is divided into five parts: adaptation theory; adaptation, vulnerability, and resilience; adaptation and disaster risk; adaptation and development; and adaptation and climate change policy.

Recommended for all who need a solid grounding in all aspects of climate change adaptation.

Available from Earthscan:
www.earthscan.co.uk

Climate Change and Vulnerability

● *Edited by Neil Leary, Cecilia Conde, Jyoti Kulkarni, Anthony Nyong, and Juan Pulhin*
ISBN: 978 1 84407 688 8
Earthscan, 2009 (paperback)

Together with *Climate Change and Adaptation*, these two books are the result of a research initiative proposed by the IPCC after its Third Assessment in 2001 and highlight the much needed investments required to reduce vulnerability.

The case studies in the book are detailed and well researched, providing a deeper analysis of vulnerability to climate change in different sectors and countries in the developing world.

The book is essential reading for those who wish to further their understanding of how climate change affects people and their environment, and what they can do to reduce vulnerability.

Available from Earthscan:
www.earthscan.co.uk

Climate Change in Africa

● *Camilla Toulmin*
African Arguments
ISBN: 978 1 84813 015 9

This book offers a comprehensive, succinct, and timely review of the challenges facing Africa in the context of climate change. It opens with an overview of climate change science and the implications of the IPCC's assessment report of 2007 for different

regions of Africa, outlining the agreements, institutions, and funding mechanisms set up, and reviews performance in achieving cuts in greenhouse gas emissions. As elsewhere in the developing world, the climate change challenge for Africa is of finding ways to adapt. Adaptation needs attention at many levels, and the book emphasises the need to combine a focus on building more resilient local food and water systems with national plans for food security and international management of key resources.

Toulmin looks at the impact of climate change on the availability and access to natural resources, firstly looking at how water availability is affected. With some areas becoming drier and others wetter as a result of climate change, the very limited investment in managing domestic water supplies in rural and urban settings needs addressing, as well as the untapped potential of dams to capture water for energy generation and agricultural production.

The reliance of African countries on agriculture and natural resources means that farmers are facing ever greater challenges. Toulmin draws on success stories which incorporate greater resilience into farming systems, particularly in the West African Sahel.

Forests are a huge source of income and provider of services, and the growth in carbon markets and Reduced Emissions from Deforestation and Degradation (REDD) schemes bring potential benefits to Africa. Toulmin questions who has the rights to trees and who can claim payments from a global fund. She emphasises the time and effort required to clarify and enforce rights of access and use over these resources, so as to best distribute the proceeds from these schemes among local people, local government, and national authorities. In her view, a combination of local empowerment and national support is likely to work best.

Urban growth can bring many negative impacts on people's health and the environment, as well as vulnerability in the context of climate change. Toulmin looks at the potential of cities to be part of the solution rather than the problem, through redesign which will need the close collaboration of local communities, residents' groups, town councils, and local government.

In a chapter on climate change and conflict, Toulmin questions whether future conflict and resource wars could be attributed entirely to climate change. She examines the effect resource scarcity can have on migration patterns, which often have a very significant impact on people's income. She also looks at the rise in biofuel cultivation and the 'land grabs' which are taking place in some regions. Again, Toulmin suggests positive ways forward to reduce the shifts in resource availability.

Overall, Toulmin focuses on the opportunities facing Africa, and how it can gain from the new funding streams that will arise from the climate change negotiations. Africa has a large part to play in the new carbon economy, but it is the voices of the poor and vulnerable – who are most affected by climate change – which need to be heard as the policies and institutions for addressing climate change are designed.

Available from Zed Books: www.zedbooks.co.uk

Planning with Uncertainty: Using Scenario Planning with African Pastoralists

● *SOS Sahel UK and IIED, 2009*
ISBN: 978 1 84369 743 5

This booklet illustrates how the idea of scenario planning as a participatory tool is being used to help pastoralists in Africa manage uncertainty and change. It uses scenario planning in a constructive way to

imagining multiple futures and consider how they might be influenced. Pastoralists are masters in the art of engaging with uncertainty and turning it to their advantage, since unpredictability is characteristic of the ecological environments in which they operate.

The book is based on SOS Sahel UK's work with Boran and Somali pastoralists in Kenya and IIED's work with WoDaaBe pastoralists in Niger. It captures the early lessons from an approach which has excited all those involved.

After a brief introduction, the first section looks at the three experiences from which this booklet is drawn – two in Kenya and one in Niger. The second section discusses the role of the facilitator while the third describes the main elements of a scenario planning process. The final section offers some concluding reflections.

The booklet is written with community development workers primarily in mind – for those who may be interested in facilitating scenario planning with communities and wish to know more about it. It describes the process involved and discusses the benefits, challenges, and implications of the approach. The booklet includes a DVD and is also available in French.

To request a hard copy, please contact: SarahWitts@sahel.org.uk or download a copy at: www.iied.org/pubs/display.php?o=12562IIED

GENERAL

Communication for Another Development: Listening Before Telling

● *Wendy Quarry and Ricardo Ramirez*
Zed Books, 2009
ISBN: 978 1 84813 009 8

This is fun and entertaining book looking at the challenges of communicating in the development sector. It is a lively, personal account by two development practitioners who have been frustrated with the outcomes of their research not being communicated effectively.

To quote from the book; "it is not communication that makes good development but good development that contains good communication". The book unravels this notion. It is divided into three parts – the first looking at the move away from results-based approaches, at communication for *Another Development* and how development is more about exploring and enabling, rather than prescribing. It also explores why communicators have a hard time explaining what they do.

The second part reflects on experience. It looks at early champions in the field and uncovers principles which made them successful communicators – these include combining advocacy, educational and participatory communication functions. It also looks at new ways of working with established media.

The final part looks forward to how things can be done differently, noting that even with new technologies, there are some hardy principles to adhere to.
The book is a must for all development professionals and shows clearly the opportunities arising from good deployment of communication processes.

Available from Zed Books
www.zedbooks.co.uk

Speaking to Power – 27 Voice Tools Building bridges for participatory learning, action and policy-making

● *Neela Mukherjee*
Foreword by Robert Chambers
Studies in Rural Participation Series No. 7
Concept Publishing, 2009
ISBN: 81-8069-588-3

This book looks at the practical side of enabling ordinary people to 'speak to

power'. Those whose voices are rarely heard include women, minority groups, indigenous peoples, and the poor – and making these people's voice heard in policy-making remains a serious issue.

This book is based on the assumption that if those in power do not listen to ordinary people then the latter can use their united power to try and influence them. The book provides tools and mechanisms to organise people's voices for transmission, thereby connecting the community voice at the local level with higher levels of policy-making.

As the title says, the book presents 27 voice tools from practice. These are divided into tools for participatory assessments and tools for social accountability. The first set includes methodologies such as participatory poverty assessments, participatory monitoring and evaluation, and most significant change tools. The second set includes participatory budgeting, citizens' advisory boards, lobbying and advocacy, and people's courts.

The concluding chapters look at aspects of institutionalising community voice, including major gaps and weaknesses of the conventional policy framework.

Available from Concept Publishing Company, New Delhi: www.conceptpub.com

Strengthening Voices of the Excluded

Affirming Life and Diversity, Rural images and voices on Food Sovereignty in south India.

● *The DDS Community Media Trust, P.V. Satheesh (DDS) and Michel Pimbert (IIED), 2008*

ISBN: 978 1 843969 674 2

In *PLA* 58, we announced *Affirming Life and Diversity*. Here, two reviewers give their thoughts on this multimedia publication.

Reviewed by Nick Lunch, Director and Co-founder, InsightShare

Affirming Life and Diversity celebrates local knowledge, innovation, self-determination, and local action for change. The compilation of 12 videos made by women filmmakers, who are all local farmers from Andhra Pradesh working with the DDS (Deccan Development Society) Community Media Trust, are a clear and outstanding result of community-led research, guided by the International Society of Ethnobiology's Code of Ethics.

Throughout eight years of work, DDS and IIED have encouraged local communities to undertake their own research and make their own publications. This logic identifies the local inhabitants as the best experts to conduct research on biodiversity in their own communities. Using a tool that equalises access to the results, the *dalit* women used community video and radio to record systematically the variety of voices horizontally and vertically.

This project also clearly celebrates action as a direct result from research. As Michel Pimbert acknowledges in his radio interview with Mark Sommer (A World of Possibilities, 2008), action research provides space for direct democracy and cultural affirmation.[1] The videos produced in this long-term action research project show collaboration, production, and validation of common knowledge with an active role of the community in its outputs.

Affirming Life and Diversity sets a precedent in participatory and action research showing how multimedia is a

[1] Listen online: http://tinyurl.com/pimbert-interview
Full URL: http://aworldofpossibilities.org/program/vanishing-and-re-emerging-reviving-biological-and-cultural-diversity

perfect tool for results dissemination and establishing equality in access, while creating outputs with a multiplicity of uses as advocacy tools. Besides, the long-term approach opened up a creative space for local capacity building and strengthening farmer-led research instead of extracting information to provide knowledge for outsiders.

The community videos unpack a reflective process, and make visible the careful adherence to participatory practices that have led to local communities gaining autonomy in decision-making as well as horizontal sharing from local to global spaces. The exchange and mutual learning processes among farmers from India, Peru, Mali, Iran, Indonesia, and South Africa might be shared also with many other farmers around the globe, thanks to the videos.

The final palpable outcome is a high and advanced level of community collaboration, both local and global, involving political empowerment and power over decision-making. The research findings are judged in terms of the degree to which communities set research agendas and frame policies. It is refreshing to learn of a long term participatory video intervention that has led to so many positive changes in local people's lives.

The evidence of the process: an outline of the community videos[2]

The 12 videos are carefully organised to articulate an argument with a variety of voices: farmers, scientists, CSOs representatives, government officials, and international stakeholders. This result of this participant-led research had put everyone at a sangham shot level: that is, the eye level when you sit together in a sangham community group. As PV Sateesh commented to InsightShare in 2007 in a video interview, the process has achieved farmers talking to farmers locally and globally:

That is for me the power of community video.

The video-arguments articulated by the women filmmakers include:

• Explanation of the research project and process, presenting the stakeholders and the case.

• Celebration about biodiversity events as a community forum for awareness and decision-making, creating a privileged space for sharing local knowledge and establishing an agenda on food sovereignty. The process of filming and screening back to the community is documented too.

• Concrete examples of successful advocacy using community video films, e.g. reversing the Public Distribution System which had flooded local markets with subsidised rice and has now become the Community Grain Fund, promoting indigenous cereals like sorghum; or the wonderful case of banishing BT Cotton from the State of Andra Pradesh following a long-term video campaign by the Community Media Trust; or the controversial work of local citizen juries who shamed DfiD and UK partners into abandoning the green revolution tactics which supported the spread of GM seeds and export-led industrial agriculture.

• Analysis of biodiversity (uncultivated food), including a diversity of voices and comparing traditional and scientific knowledge.

• Sharing of local technology innovation among local farmers.

• Analysis of markets and their influence in the communities of Andhra Pradesh. Presentation of issues and solutions, such as community certification, alternatives to established markets, development of community action groups, creation of new local market institutions, education campaigns, and inclusion of all the

[2] See: www.insightshare.org/video_PVSateesh1.html

stakeholders in the process.
• Review of the national learning group role on the action research project and their interaction with community members. The video also documents the process of participatory video as a tool for research and for opening new pathways: 'radio and video are our weapons' (quote from a *sangham* filmmaker).
• Documentation of the DDS progress and the influence of the local *sanghams* in policy-making at local, regional, national, and international level. Evidence of the power of community video as a rigorous tool for research and advocacy.
• A case of horizontal global exchange: Indian-Peruvian farmers. It includes the sharing of sustainable farming techniques, culture, market institutions, community videos, and participatory tools for biodiversity registration. This is the powerful, human, emotional, spiritual side of development we rarely see.
• Documentation of the process of doing research through participatory video in relation to BT cotton. The research was conducted throughout three years, filming once a month systematically. Emphasis on stories and its impact on action and change.
• Global advocacy video: how to take the process beyond. The sangham filmmakers decided to take the research to the Global south, including farmers, scientists, and other stakeholders from South Africa, Indonesia, Thailand, and Mali, to record experiences around GMOs and BT cotton.

Similar experiences and approaches from InsightShare

I met PV Satheesh[3] at his home in Pashtapur in 2005. You may laugh, but it was a bit like meeting my guru! Sitting under a huge tree in a beautiful courtyard and sharing local food as farmers came and went from a variety of *sangham* meetings, we chatted about participatory video, we talked to the ladies at the Community Media Trust, shared videos, and agreed to work together to bring other PV pioneers across the globe together and build a coherent movement for community media. What struck me most from that meeting with Satheesh was the dedication and life-long commitment it takes to seed real change. He lives and breathes what he preaches! On my return to UK, I also met with Michel Pimbert, who since has remained a mentor and friend.

At InsightShare today we feel in mid-stream of a powerful current. And we continue to nurture long-term links with the wider work of IIED's Food Sovereignty Programme partners, as well as other IIED initiatives focused on community-based adaptation to climate change.

We have carried out capacity building for community video in many countries since our beginnings in 1996. This has shown us there is no standard pathway, but that a community hub (physical space to come together and produce community videos, similar to the DDS Community Media Trust) will need some form of hands-on support, encouragement, and mentoring for two to three years minimum. What we have learnt from making mistakes is that we need to build relations at the most grassroots level to ensure we are contributing to positive social change. We work less and less with development agencies and more directly with communities.

There are huge advantages to anchoring the hub within an already supportive and responsive network such as The Christensen Fund's regional programmes and the UNDP Global Environment Facility (GEF) Small Grant Programme's local partners, or the Land

[3] See: www.insightshare.org/videos

is Life network of indigenous organisations, as we have been doing in our Biocultural Diversity programme.

We call *Year One* the conception phase, whilst *Year Two* is the birth of the hub. Some community partners may choose not to host a permanent media hub but many opt to go on developing a truly community-led and long-term social media hub. *Year Three* would see the development of a more intensive strategy for developing local sustainability strategies for the hubs, with less hands-on involvement from InsightShare. Projects would be almost entirely locally driven afterwards.

Our strategy to hand over the tool and connect the communities in a global network is palpable in the videos created by our first two hubs: Durban and London.[3] This year, in a multimedia project called **Conversations with the Earth**, we are working with six indigenous communities to identify, train, and equip local videographers to enable them to record the impacts of, and responses to, climate change at the local level.

Sharing these video stories will enable indigenous peoples to present their own perspectives on the effects of climate change to inform the global discourse and build capacity in community media for locally-driven processes. These six hubs are in Peru, Panama, Cameroon, Kenya, Canadian Arctic, and Philippines.

I am convinced by the words of Djengui (the Great Spirit of the forest) who has predicted a radiant future: I feel it is in our hands and I am going to work for that.
Member of the Baka Community Association in Eastern Cameroon

Affirming Life and Diversity: Rural Images and Voices on Food Sovereignty in south India is undeniable proof of the unlimited possibilities of combining participatory action research and community media for cultural affirmation, self-determination, capacity building, and socio-political local and global change – led by and for the real development experts: community members, farmers, indigenous peoples, and local inhabitants. It is a must-see for those in the development industry, development academia, and policy makers. And it is an inspiration to fellow community media practitioners!

For more information about InsightShare, visit: www.insightshare.org

For more information and community videos amplifying voices of indigenous peoples on climate change visit: www.conversationsearth.org

Reviewed by Zoe Young, a Film Producer and Sian Sullivan, a Lecturer in Environment and Development at Birkbeck College, University of London.

Smartly packaged and produced, this box set of films and text is an important document of community focused action research and media, exploring the food sovereignty of marginalised people in dryland areas of Andhra Pradesh, India. It offers multi-vocal accounts of action research on food, farming, ecology, and livelihoods 'by, with and for' people who have tended to be treated by well-meaning elites as objects of research or of pity, and as more-or-less passive recipients of aid and agricultural extension work. A particular contextual focus is the displacement of local diversities (crops, technologies, farming practices, exchange strategies, etc.) through the distribution of free or cheap white rice produced in industrial monocultures. This is a staple which requires little labour to prepare, but which is relatively low in nutrient value. The films highlight some of problematic outcomes of this incidence of India's 'Green Revolution'. Even more importantly they document the processes engaged in by local people, and

particularly local women, to remember, reclaim, and share indigenous knowledge and diverse farming practices appropriate to the relatively dry and remote (in terms of urban market access) rural landscape in which they dwell.

Issues covered include alternative strategies for distributing food to the poorest, growing new and traditional crops for market, the use of natural fertilisers, the establishment of biodiversity festivals to celebrate local diversity, and the problems faced by local farmers pressured to grow genetically engineered cotton. A significant emphasis is on the ongoing work, networking, and organisational development of the Deccan Development Society (DDS) as a highly progressive and effective campaigning development NGO. A key aspect of the initiative, and one which is of particular relevance for IIED, for 'participatory development work' in general, and for this publication, has been the establishment of an ethical research protocol and practice between the Deccan Development Society and IIED, and village *sanghams*. These are 'voluntary associations of poor women… basically formed by *dalit* women, but not to the exclusion of poor women from a wide array of castes' (p. 16). An Annex sets out the comprehensive Code of Ethics, established and agreed by the International Society of Ethnobiology, which has been drawn on in this project to guide good research practice in the new, ethically unarguable framework of 'farmer first'.

This is an innovative combination of locally-filmed and directed visual material with an accompanying and well-produced text elaborating further on the geographical and institutional setting of the research. The films contain moments of real beauty and excitement. High points for us were sections where farmers speak among themselves, making matrices for local biodiversity registers, dividing up benefits between villagers, and documenting seed-keepers' storage facilities. From these, the passion of speakers committed to this grassroots approach to development and conservation is clear. On a more technical note, the film graphics are generally good and clear, and the sound mix mostly works. There is some varied audio and light levels on a couple of films (e.g. Film Three is very dark for some reason), and at times for us the repetitive and almost constant use of women singing, whatever is being said or is happening on screen, grated after a while.

More substantially, the total package slightly misses an opportunity to really document and present the project as a potentially exemplary process of participatory video making. The accompanying booklet states: 'Participatory video was an integral part of this action research; the CMT [DDS Community Media Trust] documented the dynamics and outcomes of the research through the eyes of marginalised women farmers and other small farmers' (p. xii). But while the camera may directly present what local women's eyes were seeing, the soundtrack only rarely presents what their voices might be saying. Film Seven ('Learning from Grassroots') does give more space to women's voices, including their views on the role and practice of participatory video in the process of co-inquiry, but for the most part, women's voices are heard primarily as untranslated background group singing. Where they might be telling their own stories, and interviewing each other to give narrative shape to the films that we see, we are led instead by an authoritative male narration, scripted (according to the credits) by PV Satheesh, the director of DDS. We wondered why the women filmmakers themselves were not describing in their own words the significance of their local biodiversity festivals, or sharing their experiences of

travelling to Peru to discuss local agro-biodiversity issues with Andean farmers? There is room here for a separate film focusing on the participatory video process itself in the context of this project, indicating, for example, how women's groups agreed on edits and storylines and including some clarification of their engagements with specialists in producing the final versions. Another interesting option would be to hear PV Satheesh's own personal and professional experience as a key motivating force behind such a globally important and innovative social movement organisation.

One of the films that does approach this more successfully is the first film on DVD 4 (themed as 'Grassroots confront genetic engineering'), entitled 'Why are Warangal farmers angry with BT Cotton?' This film opens with clips of farmers heatedly explaining that this modified crop actually does not provide the return they need on their investment. For us, this opening grabbed our attention and concern as viewers, because we were able to see and hear those immediately affected voice their views and experiences directly. At the same time, and from a professional filmmaker's perspective that understands the time and interest of a viewer to be at a premium, some of the farmer accounts regarding what then went wrong with these introduced cash crops perhaps are allowed to run on too long, thereby losing the viewer's attention and concern. This is a common dilemma for filmmakers desiring to give space for views and voices that often remain unheard, while producing edits that also are attractive, coherent, and attention-grabbing for the viewing consumers of the 'product'.

In general, however, we would have appreciated a few more glimpses of local people making and watching films together, as well as some more time given to permitting the emotional connection that can be made when hearing protagonists speak directly of their own views and experiences. Arguably, it is through making possible these sorts of felt and empathic connections with people in such different contexts and experiencing such alien constraints that the broader changes associated with sustaining and celebrating diversity, both biological and cultural, might manifest. With the sensitive use of translation and subtitles, filmed media can provide powerful vehicles via which such subtle yet strong connections can be engendered.

In sum, however, this is an exciting initiative and product with great educational value in terms of content, methodologies, and institutional setting. We would love to see some sort of distillation of the material here into a single hour-long film that weaves the connected issues together through a succinct juxtaposition of images, content, and narration. This should be possible, and would constitute a product with great pedagogical value for a wide range of contexts. These could include the sharing of experiences between different localities and rural peoples globally, as a resource for 'development professionals' as well as for social movements and campaigns working with related issues, and in university teaching for a range of courses and degree programmes. Such an extension of this product would of course encounter tensions in the interactions between the producers of content and editorial choices. But we feel that these productive tensions would be worth grappling with, so as to enhance the reach and impact of the significant stories, experiences and 'developments' documented here.

Events and training

Fourth International Conference on Community-Based Adaptation

● *21st–27th February 2010*
Dar es Salaam, Tanzania
The Fourth International Conference on CBA aims to share and consolidate the latest developments in CBA planning and practice in different sectors and countries amongst practitioners, policy makers, researchers, funders, and the communities at risk. It will disseminate lessons learnt both at the conference and through conference proceedings. This has become an annual event at which practitioners, policy makers and researchers can share information on methodologies for CBA, up-scaling CBA, communicating CBA, CBA in different ecosystems, funding for CBA etc. The conferences involve field visits to CBA projects in different ecosystems and regions so people can see CBA activities on the ground. Ultimately the aim is to share knowledge and experiences to help those most vulnerable to climate change.

For more information please contact: Saleemul Huq or Hannah Reid, International Institute for Environment and Development (IIED), 3 Endsleigh Street, London, WC1H 0DD, UK. Tel: +44 20 7388 2117; Fax: +44 20 7388 2826; Email: saleemul.huq@iied.org or hannah.reid@iied.org. Website: www.iied.org/climate-change/key-issues/community-based-adaptation/cba-conference

Online courses: International Institute for Sustainable Development (IISD)

● *22nd January – 26th February 2010 (Spring Session I)*
IISD offers a series of related online courses on various aspects of community-based development designed for practitioners in the field, project directors, funders, or anyone interested in learning more about community-based development. IISD courses do not require university admission. Courses are intensive and provide practical tools for those working in the field. IISD offers a comprehensive development training programme covering 13 different subject areas within the field of sustainable community-based development.

All courses are organised in a seminar format and last five weeks. Each course costs USD$360. All course materials are provided and can be downloaded from the course website after registration.

Deadline to register is 15th January 2010.

Community-based health

See: www.colostate.edu/Orgs/IISD/courses/Health.html
Using case studies and other readings, along with group discussion, this course will explore the global, social, political, economic, and cultural factors that contribute to poor health. It will also look at methods for empowering communities who lack access to healthcare to create practical solutions that are relevant to their unique situations. Participatory research will be one of the key strategies dealt with in this course due to its focus on promoting change at the grassroots level.

Approaches to community-based development

See: www.colostate.edu/Orgs/IISD/courses/Approaches.html

This course explores both the structure and practice of community development around the world. Using case studies, videos, readings, and online discussions, participants in this course will engage in a critical analysis of different approaches to community development, their historical development, and underlying assumptions with the goal of distilling out key structures and practices that will help them be more effective on the ground. While not required, it is recommended that this course be taken prior to taking other IISD online courses.

Online certificate programme in community-based development

Students who complete the 'Approaches to community-based development' course along with three other elective courses will receive a certificate in Community-Based Development from the International Institute for Sustainable Development at Colorado State University.

Community-based organising

See: www.colostate.edu/Orgs/IISD/courses/Organizing.html

Taking a practical 'hands-on' perspective, this course will explore the theories, tools, styles, and challenges of community-based organising. It will discuss practical strategies for developing community leadership and working with marginalised communities, exploring the ideas and examples from Evo Morales, Paulo Freire, Saul Alinsky, Sup-Comandante Marcos, the Bridge Immigrant Rights experiment, and Martin Heidegger. By looking at ways of organising with intentionality, this course examines the impact that ordinary individuals can and have had on the world.

Community-based mapping

See: www.colostate.edu/Orgs/IISD/courses/Mapping.html

This course will explore theories, ethics, applications, and methods of community-based mapping and its role in participatory learning and action as well as larger processes of integrated community-based development. This course, while drawing on many of the recent case studies, academic writings, and reports from the field, will be highly interactive and will emphasise the sharing of experiences, ideas, and insights from course participants.

Participatory research and development

www.colostate.edu/Orgs/IISD/courses/Research.html

This course stems from the emergence of participatory approaches especially Participatory Rural Appraisal (PRA) pioneered by Robert Chambers in the 1990s. This course will cover the theory behind participatory research and action methodologies used by academics and development professionals, as well as focus on practical tools to conduct research and evaluations that, through the research process itself, empower communities and local people. Participants will examine the ethics of research in marginalised communities and also learn appropriate tools to conduct baseline studies, academic research, and monitoring and evaluation reports.

All courses are organised in a seminar format and last five weeks. Each course is $360 USD. All course materials are provided and can be downloaded from the course website after registration. For more information visit the web pages above or contact: Jamie Way, Training Coordinator. Email: jamie@villageearth.org; Tel: +1 970 491 5754.

Bond Network training courses

Bond provides a range of learning and

training services for NGOs working in international development. Bond cover issues that matter to NGOs, sharing practical, real world knowledge through a range of learning methods. All training courses:

• are open to non-members as well as members, although members receive a discount;
• are competitively priced (prices start at just £69 for a one-day workshop);
• focus on active learning and participation;
• reflect the latest thinking, concepts and issues; and
• are delivered by experienced facilitators with a thorough knowledge of their field.

Examples of courses offered by Bond

Monitoring and evaluation for accountability

10th February 2010

Aimed at people new to monitoring and evaluation or who want an overview of monitoring and evaluation systems. If you are responsible for developing monitoring and evaluation systems, or need to improve an existing system to record and analyse project information, this course will help you understand the purposes of monitoring and evaluation and how to set up systems that satisfy multiple stakeholders.

Introduction to advocacy

3rd March 2010

Aimed at people new to advocacy or looking for an overview of best practice. To plan effective campaigns and influence decision makers to change policy you need a clear understanding of the advocacy process, its purpose and impact. This participative course will explore the issues involved in policy work, lobbying and public campaigning, and the skills and techniques you will draw on.

All our open training events are currently run in central London. They are also available in-house. For more information about in-house training visit: www.bond.org.uk/pages/in-house-service.html

Download form (BOND members): www.bond.org.uk/learning-and-training-booking.php?event_id=a0E40000003w38BEAQ

Download form (if you are not a BOND member): www.bond.org.uk/pages/how-to-book.html

Post to: Learning and Training Events Administrator, Bond, Regent's Wharf, 8 All Saints Street, London N1 9RL. Email: learn@bond.org.uk; Fax: +44 20 7837 4220

International Association for Public Participation training courses

Courses offered in February 2010. See website for future course dates.

Planning for Effective Public Participation

1st–2nd February 2010
Calgary, AB, Canada. See: www.iap2.org/cde.cfm?event=281938
Edinburgh, Scotland, UK. See: www.iap2.org/cde.cfm?event=284113

This two-day module of the IAP2 Certificate Programme provides an introduction to the foundations of effective public participation programmes. The planning module focuses on defining the issues for which public participation is required, identifying stakeholders, and ensuring their involvement throughout the process. Using IAP2's Spectrum for Public Participation, course participants establish clear and achievable objectives for public participation and a promise to the public. Participants learn how to prepare an organisation for conducting public participation and to plan for the timing, techniques, and resources needed to make public participation a success. Emphasis is placed on creating and using continuous feedback and evaluation.

Note: Planning for Effective Public Participation is a prerequisite for all other IAP2 Public Participation Certificate training.

Communications for Effective Public Participation

3rd February 2010
Calgary, AB, Canada. See: www.iap2.org/cde.cfm?event=281939
Edinburgh, Scotland, UK. See: www.iap2.org/cde.cfm?event=284116
This one-day module in IAP2's Certificate Program in Public Participation offers an overview of the communication skills used by public participation practitioners. The course provides an introduction to communication skills and models. It introduces the Principles of Authentic Communications and focuses on tools used to prepare and present information materials in a variety of forms, small and large group interaction models and facilitation essentials.

This course is suitable for beginning to intermediate level practitioners and those who want a review of basic communication techniques.

Note: Planning for Effective Public Participation is a prerequisite for this course.

Techniques for Effective Public Participation

4th–5th February 2010
Calgary, AB, Canada. See: www.iap2.org/cde.cfm?event=281940
Edinburgh, Scotland, UK. See: www.iap2.org/cde.cfm?event=284119
This two-day module in IAP2's Certificate Programme in Public Participation provides an introduction to a range of practical tools and techniques used at all five levels of IAP2's Public Participation Spectrum. It gives course participants an opportunity to try out or observe a number of specific techniques including World Cafe, Interviews, Samoan Circle, Citizens Jury, and Advisory Group. It includes overviews of more than 20 tools and techniques tested and used by public participation practitioners around the globe. The course is suitable for beginning to intermediate level practitioners and those who want a review of basic group process techniques. Interactive exercises and practical tips are used to enliven the basic theory and reference materials presented throughout the two-day session and reinforce skills that participants can put to immediate use.

Note: The Planning for Effective Public Participation module is a prerequisite for this course

For further information about Edinburgh courses please contact: Vikki Hilton, Hilton Associates, 3 Priory Grove, South Queensferry, Scotland, EH30 9LZ, UK. Tel: +44 131 331 1523; Fax: +44 1315101523; Email: vikki@hiltonassociates.com

For further information about Calgary courses please contact: Canadian Trainers Collective, c/o Gay Robinson Public Relations, 163 Woodpark Circle SW Calgary AB T2W 6G1, Canada. Email: cdntrainerscollective@shaw.ca; Fax: +403 281 8945.

Call for applications: Training on Managing for Impact, January 2010

South Africa, 18 to 29 January 2010
Managing for Impact (M4I) is a holistic approach to managing development initiatives. It integrates a diverse range of existing processes, methodologies, and tools to address common challenges and contribute to enhancing development effectiveness. M4I involves strengthening capacities (skills, knowledge, systems etc.) and conditions (including formal and informal policies, principles, values etc.).

The overall purpose of the workshop is to continue to develop and strengthen the capacity of individual service providers and practitioners within Eastern and Southern Africa to support pro-poor projects/programmes to effectively manage toward impact.

Deadline: 4th December 2009.

Cost: USD$ 2400 to cover training costs including accommodation, meals, training materials and stationery, tuition, local travel expenses, fieldwork costs, and other related workshop expenses. However, participants are expected to cover their travel expenses.

For more information see: http://tinyurl.com/m41-training

Application form: http://tinyurl.com/m41-training-app

Website: www.khanya-aicdd.org

Please complete the application form and participant profile if you wish to be considered for the training workshop. Return completed form to: masebotsa@khanya-aicdd.org; Fax: +27 51 430 8322.

Participants selected will be expected to have had basic training and at least six months experience working with pro poor initiatives and facilitating participatory planning, monitoring, evaluation and learning processes.

PRIA Education certificate courses, distance learning, from April 2010

The Society for Participatory Research in Asia (PRIA) is an international centre for learning and promotion of participation and democratic governance. PRIA Continuing Education (PCE), the academic wing of PRIA draws upon the knowledge and resources of PRIA and repackages it into learning material.

All certificate programmes invite applications from Indian as well as International students. The minimum required qualification is Bachelor's degree in any subject. The certificate programmes are offered in a distance mode and include print materials, audio-visual CDs, guest faculty, and immediate and engaged communication through a bulletin board.

Courses include:

- International perspectives in participatory research
- Civil society building
- Understanding gender in society
- Perspectives in participatory monitoring and evaluation (IPPME)
- Panchayati raj institutions in India (local-self governance)
- International dimensions of adult education and lifelong learning
- Perspectives on citizenship, democracy and accountability
- Urban local self governance in India (municipal governance)

Each certificate programme lasts three months and sessions start in April 2010.

For more information, contact: Ms. Martha Farrell, Director, PRIA Continuing Education and PRIA, 42 Tughlakabad Institutional Area, New Delhi 110062, India. Tel: +91 11 2996 0931/32/ 33; Fax: +91 11 2995 5183; Email: education@pria.org; Website: www.priaeducation.org

Mosaic.net International, Inc. training courses

International workshop on results-based management, appreciative inquiry, and open space technology
12th–16th July 2010
www.mosaic-net-intl.ca/rbmworkshop.shtml

Rights-based management is shaping the way Government, the private sector and Non-governmental organisations conduct business. Managers are increasingly being asked to design, manage, and assess the results and performance of their organisation and projects. Appreciative Inquiry has shifted traditional thinking from a problem-focused approach to seeking out and building on what works: strengths, innovations, and achievements. Open Space Technology is a process where groups can self-organise around issues of importance to them.

International workshop on gender training

A joint collaboration involving Gender Equality Incorporated and Mosaic

International, Inc.
19th–23rd July 2010
www.mosaic-net-intl.ca/gender.shtml
The gender training workshop seeks to provide workshop participants with core concepts, gender analytic frameworks, and gender strategies that can improve the effectiveness of your organisation, programmes, and projects in working with vulnerable and marginalised women and men, boys, and girls. The workshop will move beyond theory to apply in practical and useful ways gender analysis and gender sensitive strategies to your organisation and its programmes and projects to achieve greater social justice, development, and peace

Participatory monitoring and evaluation workshop with two-day community practicum

26th–31st July 2010
Ottawa, Canada
www.mosaic-net-intl.ca/pmeworkshop.shtml
This is a practical, iterative and hands-on workshop. The format will vary between small group work and discussion, plenary, and practical community assignments to encourage the sharing of knowledge and application of participatory concepts and tools to real life situations. Participants will go out into the community on a daily basis to apply tools and to learn by doing. The community practice assignments will be in one of five different communities in and around Ottawa. Teams of participants will carry out a simulated participatory monitoring and evaluation exercise, using the tools learnt in the workshop and defined by the host organisation. Where appropriate, links will be made to existing community groups and their issues. Evening meetings and on-going team-building exercises will be part of this process.

For more information, please contact: Françoise Coupal, Mosaic.net International, Inc. 705 Roosevelt Avenue, Ottawa, Canada, K2A 2A8. Tel: +613 728 1439; Fax: +613 728 1154; Email: wkshop05@mosaic-net-intl.ca; Website: www.mosaic-net-intl.ca

MA Participation, Power, and Social Change

University of Sussex, UK
The MA in Participation, Power, and Social Change (MAP) is a unique 18-month programme providing experienced development workers and social activists with the opportunity to critically reflect on their practice and develop their knowledge and skills while continuing to work or volunteer for most of this period.

The MA combines academic study, practical experience, and personal reflection. Students carry out an action research project related to their work, inquiring into the challenges of participation and power relations, reflecting on their actions and assumptions, and exploring what it means to facilitate change.

Students come from a wide range of professional backgrounds, including community organisations, NGOs, social movements, governments, businesses, and consultancies. They work on diverse issues such as agriculture, health, HIV-AIDS, natural resources, climate change, youth, gender, community development, governance, communication, planning, evaluation, and policy-making, among others.

A core component of MAP is the 12-month period of work-based learning in which students examine issues in their own practice and use the findings to benefit their organisation. Their placements are based in countries in both the global South and North, focused on a wide variety of issues, sectors, and institutions. Students are supported by their employers, donor agencies and scholarships, or are self-funded.

An acceptable first degree or

equivalent academic qualification, and at least three years of voluntary or professional experience which should be in some way connected to the MA subject area. Minimum acceptable level of English language competence required.

Cost: £12,500 for all students.

University of Sussex paper application: www.sussex.ac.uk/study/pg/applying/applications

University of Sussex online application: www.sussex.ac.uk/study/pg/applying

For more information contact: Angela Dowman, Programme Administrator, University of Sussex, Brighton, BN1 9RE, UK. Tel: +44 1273 915644; Email: teaching@ids.ac.uk; Website: www.ids.ac.uk/go/teaching

For a hard copy of the prospectus and application pack, please use the link to order one: www.sussex.ac.uk/studywithus/ug/orderprospectus

e-participation

Adaptation Learning Mechanism (ALM)

www.adaptationlearning.net

Shares guidance and tools for developing and implementing adaptation initiatives, including a list of materials available for immediate download or online browsing.

Assessments of Impacts and Adaptations to Climate Change – Data, Methods, and Synthesis Activity (AIACC)

http://sedac.ciesin.columbia.edu/aiacc

Facilitates access to extensive data, software, and bibliographic resources related to climate impacts, adaptation, and vulnerability across multiple sectors.

Bangladesh Centre for Advanced Studies

www.bcas.net

Bangladesh Centre for Advanced Studies is an independent, non-profit, non-government, policy, research, and implementation institute working on sustainable development at local, national, regional, and global levels. BCAS addresses sustainable development through four interactive themes: environment and development integration; good governance and people's participation; poverty alleviation and sustainable livelihoods; and, economic growth and public-private partnership. Established in 1986, it has grown to become a leading institute in the non-government sector in Bangladesh and South Asia. Many of their publications are available as free downloads.

Capacity Strengthening of LDCs for Adaptation to Climate Change (CLACC)

www.clacc.net

This is a group of fellows and international experts working on adaptation to climate change for least developed countries. Their aim is to strengthen the capacity of organisations in poor countries and support their initiatives in sustainable development through the network of fellows in 15 countries in the South, 12 in Africa, and three in South Asia.

Climate Change and Agrobiodiversity Research

www.agrobiodiversityplatform.org/blog/?page_id=1016

The Platform for Agrobiodiversity Research project on climate change is collecting information about initiatives on adaptation to climate change that are based on the use of agrobiodiversity. This tool intends to facilitate a learning dialogue between rural communities all over the world and build a knowledge base that can be used to increase recognition for the multitude of adaptation practices communities engage in. Compiling and synthesising these practices will allow them to be validated in a rigorous way and used in advocating stronger involvement for marginal groups in the climate change policy debate.

CBA-X

http://community.eldis.org

CBA-X is a shared online resource designed to bring together and grow the

CBA community. It provides a website for the exchange of up-to-date information about community-based adaptation, including news, events, case studies, tools, policy resources, and videos. Supported by CARE, OXFAM, ActionAid, TearFund, and WWF.

CRiSTAL (Community-based Risk Screening Tool – Adaptation & Livelihoods)

www.cristaltool.org

Screening tool for existing livelihoods projects which enables project planners and managers to (a) understand the links between local livelihoods and climate; (b) assess a project's impact on livelihood resources important for climate adaptation; and (c) devise adjustments to improve a project's impact on these key livelihood resources.

Famine Early Warning Systems Network (FEWSNET)

www.fews.net/Pages/default.aspx

Provides information on food security (including weekly climate and precipitation forecasts) for West, East, and Southern Africa, Central America, the Caribbean, and Afghanistan.

GRAIN

www.grain.org

GRAIN is a small international non-profit organisation that works to support small farmers and social movements in their struggles for community-controlled and biodiversity-based food systems. Their website contains a number of downloadable resources concerned with climate change, the global food system, and the potential role of smallholder farms and farming communities in mitigating the food and climate crises.

Global Environmental Change and Food Systems (GECAFS)

www.gecafs.org/index.html

International, interdisciplinary research project focused on understanding the links between food security and global environmental change. The GECAFS goal is to determine strategies to cope with the impacts of global environmental change on food systems and to assess the environmental and socio-economic consequences of adaptive responses aimed at improving food security. It focuses specifically on Southern Africa, the Indo-Gangetic Plain in South Asia, and the Caribbean.

IDS Climate Change and Development Centre

www.ids.ac.uk/climatechange

www.climategovernance.org

Aims to drive forward collaborative research and policy analysis, building programmes, and delivering high quality knowledge services, teaching, and training. Research themes include climate change adaptation, low carbon development, international environmental law, development economics, social protection, sustainable livelihoods, and migration. IDS have developed the ORCHID (Opportunities and Risks for Climate Change and Disasters) adaptation tool for assessing development projects.

IDS also runs the Climate and Disaster Governance platform, which aims to identify governance options which could help reduce climate and disaster risk to poor communities and keep development on track.

International Institute for Environment and Development Climate Change Programme

www.iied.org/climate-change/home

Focuses on improving the understanding of climate change impacts for poor developing countries, including both policy makers and poor groups; improving the decision-making capacities of vulnerable developing countries to cope with impacts of climate change;

improving the negotiating capacities of poor developing countries in the climate change negotiations through analysis of issues relevant to them; and improving the sustainable livelihoods opportunities of poor communities in developing countries in light of possible climate change impacts. Most publications free to download.

Indigenous Peoples' Assessments of Climate Change

www.ipcca.net

Indigenous peoples-led initiative, in partnership with IIED, the United Nations University, the Christensen Fund, and Novib-Oxfam. Particular focus on the impacts of climate change on food security, landscapes, and human well-being. This is a bottom-up process grounded in indigenous worldviews and knowledge systems. This multiregional project also seeks to inform policy and practice on responses to the food and climate crisis.

Intergovernmental Panel on Climate Change (IPCC)

www.ipcc.ch

The IPCC website has download links for the 4th IPCC Assessment Report (2007), a comprehensive assessment of the physical science basis (Working Group 1), impacts, adaptation, and vulnerability (Working Group 2), and mitigation of climate change (Working Group 3).

The Nairobi Work Programme on impacts, vulnerability, and adaptation to climate change

http://unfccc.int/adaptation/sbsta_agenda_item_adaptation/items/3633.php

http://maindb.unfccc.int/public/adaptation

Developed to help countries improve their understanding of climate change impacts and vulnerability and to increase their ability to make informed decisions on how to adapt successfully. In particular, the database on local coping strategies is intended to facilitate the transfer of long-standing coping strategies/mechanisms, knowledge, and experience from communities that have had to adapt to specific hazards or climatic conditions to communities that may just be starting to experience such conditions, as a result of climate change.

National Action Plans for Adaptation Database (NAPA)

www.napa-pana.org

Provides information on all aspects of NAPAs and NAPA development, including a useful risk assessment and adaptation resources page with links to adaptation resources and guidelines.

National Communications to the UNFCCC

http://unfccc.int/national_reports/non-annex_i_natcom/items/2979.php

Contains information on national circumstances, vulnerability assessment, financial resources, transfer of technology, and education, training, and public awareness.

Practical Action

http://practicalaction.org/practicalanswers/technical_enquiry_service.php

Runs a technical enquiry service for grassroots development workers, community-based organisations, NGOs, and other agencies using appropriate technologies to implement sustainable development. Includes information on adaptation to climate change.

Participatory Learning and Action

www.planotes.org

Back issues of *Participatory Learning and Action* are free to download online and contain a range of articles on participatory processes and methods that are relevant to CBA practitioners.

Southsouthnorth

www.southsouthnorth.org

A network of non-profit organisations working in the fields of climate change

and social development, and seeking to reduce poverty and promote sustainable development in Sub-Saharan Africa, Asia, and Latin America by building Southern capacity and delivering community-based mitigation and adaptation projects.

UNDP Climate Change Country Profiles

http://country-profiles.geog.ox.ac.uk

Fifty-two country-level climate data summaries intended to address the climate change information gap for developing countries by making use of existing climate data to generate a series of country-level studies of climate observations. Each report contains a set of maps and diagrams demonstrating the observed and projected climates of that country as country average time series, as well as maps depicting changes on a 2.5° grid and summary tables of the data. A narrative summarises the data in the figures, placing it in the context of the country's general climate.

weADAPT – collaborating on climate adaptation

www.weadapt.org/c03

weADAPT is an expanding collaboration that offers a wealth of experience, data, tools, and guidance to develop sound strategies and action on climate adaptation. weADAPT provides support for adapting to climate change, both on its own and as part of broader development processes, by pooling expertise from a wide range of organisations that contribute to adaptation science, practice, and policy. weADAPT espouses a principle of openness, encouraging contributions from a range of expertise across different disciplines. It aims to enable expertise and experience in vulnerability science and development practice to be coupled with climate science and modelling to create innovative thinking and integrated methods to support adaptation. Lots of resources available from the website.

Acknowledgement

Many of these websites were taken from the resources section of Christian Aid's Adaptation Toolkit: integrating adaptation to climate change into secure livelihoods, Module 2. Many thanks to Christian Aid for their work in gathering this information together, and allowing us to reproduce it.

RCPLA NETWORK

In this section, we update readers on activities of the **Resource Centres for Participatory Learning and Action Network** (**RCPLA**) **Network** (www.rcpla.org) and its members. RCPLA is a diverse, international network of national-level organisations, which brings together development practitioners from around the globe. It was formally established in 1997 to promote the use of participatory approaches to development. The network is dedicated to capturing and disseminating development perspectives from the South. For more information please contact the RCPLA Network Steering Group:

RCPLA Coordination and North Africa & Middle East Region: Ali Mokhtar, Near East Foundation – Middle East Region, Center for Development Services (CDS), 4 Ahmed Pasha Street, 10th Floor, Garden City, Cairo, Egypt.
Tel: +20 2 795 7558;
Fax: +20 2 794 7278;
Email: cds.prog@neareast.org; amokhtar@nefdev.org;
Website: www.neareast.org/main/cds/default.aspx

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Integrating participation into climate change projects: experiences from the RCPLA

The New Land New Life Project: climate change impacts on water and health, Aswan, Egypt

This two-year action research project aims to derive and test possible relations between climate change, water management issues, and health conditions, for the benefit of the poor people in new resettlement communities around Lake Nasser.

The Near East Foundation's project team has worked closely with community members to enhance the adoption of positive environmental actions and reduce climate change effects on water and health. Early in the project, the team invested in building people's trust, interest, and ownership. The focus was on the community – not only as the project beneficiary, but also as the main stakeholder. Settlers in the area were involved in all steps of implementation. With guidance and support from the research team, settlers designed their own experiments, implemented them, and participated in the analysis of results. Importantly, decision makers were also involved in the implementation. Throughout the project, the research team acted as facilitators, trainers, and advisors.

The community-based participatory research approach offered opportunities for settlers to identify and assess their needs and strengthened cooperation with the research team. It resulted in technical project gains, and yielded greater benefits to the settlers' livelihoods. It also established policy dialogue between researchers and decision makers, and between community members and decision makers.

Adaptation to the impacts of sea-level rise in the Nile Delta coastal zone, Egypt

This three-year research project aims to develop and test methods and approaches for determining optimum and feasible adaptation options to sea-level rise in Egypt. Working in Ras El Bar-Gamasa as a pilot study area, it integrates traditional modelling approaches with multi-stakeholder deliberation processes, to reduce vulnerability and minimise the external costs of adaptation.

The project is being implemented by three Egyptian partners: the Coastal Research Institute, Ministry of Water Resources and Irrigation; the Institute for Graduate Studies and Research, Alexandria University; and the Center for Development Services. This project uses a participatory approach with communities, involving them in all project activities. It aims to involve all concerned stakeholders and gain their support in the process of identifying and implementing appropriate adaptation options. So far, a participatory socio-economic study has been conducted in the pilot areas. The study has identified the basic social and economic patterns in the community, and the community's basic knowledge about climate change and sea-level rise. We now plan to hold meetings with different stakeholders to inform them about the research results, receive their feedback, and consult with them on possible adaptation options.

● *For further information about these projects please contact: rcpla@cds-mena.org*

News from the RCPLA Network Coordinator

Over the past few months, RCPLA members have been active in promoting participatory approaches by organising workshops to introduce participation as an effective tool to bring about 'social change' – adopting participation throughout the lifecycle of the projects they are implementing and documenting their best practices to be disseminated worldwide.

• A series of Training of Trainers (TOT) entitled 'Building the Capacity of Programmes that Empower Participation and Child Rights' was carried out by the Center for Development Services (CDS) in Egypt. The training provides development practitioners with the techniques required to transform their role from resource transferors to becoming agents of social change in their own communities. The trainings introduce the concept of participatory learning and action (PLA) and how it can be integrated at the different levels of the project cycle.
• The Participatory Methodologies Forum of Kenya (PAMFORK) have used participatory action research (PAR) methodologies and PLA tools in their project 'Determining the relationship between the status of water, sanitation, and hygiene in schools and the performance of boys and girls'. For more information see News from the East Africa region in this section.
• The RCPLA network is in the process of finalising its new publication 'Deepening Participation for Social Change'. This publication presents conceptual reflections on participation in development; analyses participation as an active process throughout the project cycle; and identifies the challenges faced in deepening the use of participatory approaches. It also includes a series of case studies from China, Egypt, Zimbabwe, and Nigeria, and will be available online.

Please visit the recently updated RCPLA website. Interesting news and resources are now available. Don't miss the interview by Robert Chambers on PGIS! See: www.rcpla.org

News from the Asia region

The Annual Praxis Commune on Participatory Development (Workshop 09) – as announced in the last issue – was held in Kerala, India, 30th September – 9th October 2009. Workshop 09 saw a diverse group of participants from sixteen countries and from several states of India. It was widely acknowledged by the group that the experience was well worth the journey. Highlights included Robert Chamber's presentation on attitude and behaviour changes (ABC's) for participatory development and, within the workshop's different modules, exploring practical approaches to effectively implement participation. For more information, including photos and videos of the event visit: www.theworkshop.in

Also, in a UNICEF-funded project that requires the community to take the initiative on the issue of maternal deaths in India, Praxis is working on a design that will feature children as agents of change. The UN Convention on the Rights of the Child has clearly outlined the importance of child participation in issues that concern their welfare.[1] Yet a sense of apathy prevails on creating adequate infrastructure to enable child participation to become a reality. However, Praxis and UNICEF are committed to the active role of children within the programme. We hope that this marks the start of more child-centred projects in the near future.

Praxis continues its engagement with the Bill and Melinda Gates Foundation's (BMGF) Avahan project to ensure effective participation of community members.[2] After conducting a participatory data collection, Praxis worked with community-based groups consisting of female sex workers, transgender groups, and men having sex with men, to use participatory ranking and scoring tools to assign different weights to different indicators used in assessing an empowered community-

[1] See: www2.ohchr.org/english/law/crc.htm
[2] See: www.gatesfoundation.org/avahan/Pages/overview.aspx

based group. The deliberations that emerged were rich in content, analysis, and reasoning, leading Praxis to alter its initial weights and demonstrating the dynamic engagement between Praxis and the community.

● *For more information visit: www.praxisindia.org*

News from the East Africa region

The Participatory Methodologies Forum of Kenya (PAMFORK) and SNV-Netherlands Development Organisation Kenya's South Rift Portfolio have partnered with the Kajiado Water, Sanitation, and Hygiene (KWASH) Forum to determine the relationship between the status of water, sanitation, and hygiene (WASH) in schools related to the performance of boys and girls in national examinations.

Kajiado is located in the southern greater Rift Valley, Kenya. In this action research partnership, PAMFORK is promoting participation through the use of participatory action research (PAR) methodologies and facilitating multi-stakeholder processes that deepen the understanding of the relationship between WASH and performance and learning in schools. This helps to build stakeholder capacity from the district to implement WASH-related interventions. SNV Kenya seeks to contribute towards increased access to safe drinking water and improved sanitation for the peri-urban poor, for rural communities, and in schools. Their main clients are District Water and Sanitation Forums – multi-stakeholder platforms to improve access to water and sanitation.

The multi-stakeholder KWASH Forum developed a district WASH agenda in July 2008, facilitated by SNV South Rift Portfolio. The KWASH objective is to provide leadership, direction, and to facilitate effective coordination of WASH issues and interventions. The forum also aims to develop and share knowledge to both enhance awareness and stimulate investment in water development and sanitation improvement.

The proposed action research is an ideal convergence between water and education sector issues. The project objective is to support the forum in enhancing its coordination function and stimulate synergy and joint action by stakeholders on specific strategic WASH-related issues. The first step was to support the forum in a participatory agenda-setting process in July 2008. This identified specific issues and challenges of the greater Kajiado district related to WASH. The poor state of water, sanitation, and hygiene in schools was identified as a key issues, especially because it requires the input of diverse stakeholders. Taking immediate action at the district scale was, however, a challenge. There was not enough information on the magnitude of the problem. So 120 primary schools from the greater Kajiado district were randomly selected and invited to participate in the WASH action research. Poor WASH in schools was identified as a major concern, due to:

• **inadequate water in schools**, including inappropriate technologies for harvesting and supplying water in schools; and
• **poor sanitation and hygiene in schools** and inadequate sanitation facilities (partly due to an inadequate emphasis on sanitation in schools) and inappropriate technologies for sanitation and hygiene in schools.

PAR was used to ensure meaningful and informed participation of all stakeholders, and to assess how WASH issues affected the learning and performance of boys and girls in schools. We used an interactive enquiry process to gather evidence, stimulate reflection, and inform debate, so that stakeholders at various levels could take appropriate action. Six PLA tools were created and

used in the process:
• School WASH mapping;
• WASH scoring and analysis;
• WASH situation and relationship to learning;
• Institutional WASH response;
• Future WASH mapping (to stimulate action); and
• Transect walk (to stimulate action).

These tools were designed to ensure that the respondents were able to analyse and assess their own WASH situation and deepen the understanding and analysis of the WASH issues from their own perspectives, in order to:
• enable respondents to share experiences and demonstrate the value and relevance of their existing knowledge about WASH in schools, and stimulate them to take action;
• involve respondents in self-directed inquiry and compiling, tabulating, and interpreting data on WASH and performance in schools;
• stimulate creative self-expression within the group so that school WASH problems can be viewed from a new perspective, opening up new possibilities for innovative solutions;
• strengthen analytical and planning capabilities through tasks which involve comparative analysis, making choices and connections among alternatives, and planning logical courses of action; and
• help respondents acquire and retain new information, which can lead to better decision-making and achieving desired goals.

● *For more information visit: www.rcpla.org*

News from the European Region

Members of the Participation, Power, and Social Change team at the Institute of Development Studies (IDS), UK have continued their work on a broad range of research, events, and workshops.

In May 2009, Citizenship DRC contributed to a workshop called *Reconsidering human security: does it work for the insecure?*[3] This looked at a framework for peace-building that moves beyond the state-centred model, to one where security is a collaborative project, involving and benefiting all parts of society. The team was also involved in a symposium in Cape Town in September 2009, focusing on how development could be done differently to really do justice to the diversity of people's social and sexual identities. In addition, we facilitated a workshop in Dublin for Trocaire on participatory and accountable governance, and took part in a Bond debate on the merits – or otherwise – of the logframe.[4] We hosted a Visiting Fellowship programme which received over 100 applications and generated a rich exchange with the nine fellows who spent the summer with us, from Bangladesh, India, Kenya, Ethiopia, Nigeria, Uganda, South Africa, Pakistan, Colombia, and Chile. And in October, students taking our MA in Participation, Power, and Social Change arrived, bringing with them a rich diversity of experience and learning. We welcome them and hope that they enjoy their time here.

Recent publications by our team include the IDS Bulletin 'Violence, Social Action and Research' by R. McGee and J. Pearce, and an IDS Practice Paper 'Changing the World by Changing Ourselves: reflections from a bunch of BINGOs' by Cathy Shutt. Another IDS Practice Paper 'Going to Scale with Community-Led Total Sanitation: reflections on experience, issues and ways forward,' came out in the spring, and the latest in a number of pastoralist-related publications was published last month:

[3] The Development Research Centre on Citizenship, Participation, and Accountability (Citizen DRC), IDS.
[4] Bond, formerly known as BOND (British Overseas NGOs for Development).

'Raising Voice: Securing a Livelihood: the role of diverse voices in developing secure livelihoods in pastoralist areas of Ethiopia – a summary paper.'

As a team we are entering a period of transition as funding for our core programme of work came to an end in September this year. We are now in an interim phase, re-assessing our focus and putting together proposals for future programmes. For more information, visit: www.ids.ac.uk

News from the Food and Agriculture Team at IIED

Declaration on Agrobiodiversity Conservation and Food Sovereignty

From 20th–29th September 2009, a group of farmers and scientists from Ethiopia and Peru met in the Potato Park, Pisac, in the Department of Cusco, Peru to engage in cross-cultural and horizontal learning about concepts and methods on how to design, plan, implement, and manage Agrobiodiversity Conservation Areas. This was organised by IIED's partner Association ANDES and the Association of Communities of the Potato Park.

Discussion covered a range of issues related to the conservation and sustainable use of native crops and agrobiodiversity. This included the Indigenous Biocultural Territory and Agrobiodiversity Conservation Areas approach, and continued with customary laws and governance structures for conservation of agrobiodiversity, resilience in managing climatic changes, indigenous knowledge, access to genetic resources, and intellectual property. Workshop participants considered possibilities for the implementation of national and key international legal frameworks for agrobiodiversity conservations such as the UN Declaration on the Rights of Indigenous Peoples, the Convention on Biological Diversity, and the FAO's International Treaty on Plant Genetic Resources for Food and Agriculture.

An outcome of the workshop was the Declaration on Agrobiodiversity Conservation and Food Sovereignty, signed by the participants. For more information see: www.andes.org.pe

Citizen deliberations on Democratising Food and Agricultural Research

A number of citizens' deliberations are being facilitated as part of the IIED multi-regional project on Democratising Food and Agricultural Research. This a bottom-up process whereby farmers and other citizens can decide what type of agricultural research is needed to achieve the right to food and food sovereignty – and also organise to collectively push for change in policies and practice.

The first in a series of citizens' juries, *Raita Teerpu*, will be held in the south Indian state of Karnataka on 1st–5th December 2009. The process involves several partners from Karnataka and other Indian States. For more details see the specially designed website: www.raitateerpu.com

Thanks to a partnership with Indian media, this unique event is also being announced and explained through local radio programmes. We plan to do a live telecast of part of the jury hearings and the presentation of the final verdict and set of farmer recommendations on the directions and governance of agricultural research in India.

Guidelines for contributors

For a full set of guidelines, visit our website www.planotes.org

Types of material accepted

- *Articles*: max. 2500 words plus illustrations – see below for guidelines.
- *Feedback*: letters to the editor, or longer pieces (max. 1500 words) which respond in more detail to articles.
- *Tips for trainers*: training exercises, tips on running workshops, reflections on behaviour and attitudes in training, etc., max. 1000 words.
- *In Touch*: short pieces on forthcoming workshops and events, publications, and online resources.

We welcome accounts of recent experiences in the field (or in workshops) and current thinking around participation, and particularly encourage contributions from practitioners in the South. Articles should be co-authored by all those engaged in the research, project, or programme.

In an era in which participatory approaches have often been viewed as a panacea to development problems or where acquiring funds for projects has depended on the use of such methodologies, it is vital to pay attention to the quality of the methods and process of participation. Whilst we will continue to publish experiences of innovation in the field, we would like to emphasise the need to analyse the limitations as well as the successes of participation. *Participatory Learning and Action* is still a series whose focus is methodological, but it is important to give more importance to issues of power in the process and to the impact of participation, asking ourselves who sets the agenda for participatory practice. It is only with critical analysis that we can further develop our thinking around participatory learning and action.

We particularly favour articles which contain one or more of the following
elements:

- an **innovative** angle to the concepts of participatory approaches or their application;
- **critical reflections** on the lessons learnt from the author's experiences;
- an attempt to develop **new methods**, or innovative adaptations of existing ones;
- consideration of **the processes** involved in participatory approaches;
- an assessment of the **impacts** of a participatory process;
- potentials and limitations of **scaling up and institutionalising participatory approaches**; and,
- potentials and limitations of **participatory policy-making processes**.

Language and style

Please try to keep contributions clear and accessible. Sentences should be short and simple. Avoid jargon, theoretical terminology, and overly academic language. Explain any specialist terms that you do use and spell out acronyms in full.

Abstracts

Please include a brief abstract with your article (circa. 150-200 words).

References

If references are mentioned, please include details. *Participatory Learning and Action* is intended to be informal, rather than academic, so references should be kept to a minimum.

Photographs and drawings

Please ensure that photos/drawings are scanned at a high enough resolution for print (300 dpi) and include a short caption and credit(s).

Submitting your contribution

Contributions can be sent to: The Editors, *Participatory Learning and Action*, IIED, 3 Endsleigh Street, London WC1 0DD, UK.
Fax: +44 20 7388 2826; Email: pla.notes@iied.org
Website: www.planotes.org

Resource Centres for Participatory Learning and Action (RCPLA) Network

Since June 2002, the IIED Resource Centre for Participatory Learning and Action has been housed by the Institute of Development Studies, UK. Practical information and support on participation in development is also available from the various members of the RCPLA Network.

This initiative is a global network of resource centres for participatory learning and action, which brings together organisations from Africa, Asia, South America, and Europe and is committed to information sharing and networking on participatory approaches.

More information, including regular updates on RCPLA activities, can be found in the In Touch section of *Participatory Learning and Action*, or by visiting www.rcpla.org, or contacting the network coordinator: Ali Mokhtar, CDS, Near East Foundation, 4 Ahmed Pasha Street, 10th Floor, Garden City, Cairo, Egypt.
Tel: +20 2 795 7558; Fax: +2 2 794 7278;
Email: amokhtar@nefdev.org

Participation at IDS

Participatory approaches and methodologies are also a focus for the Participation, Power and Social Change Group at the Institute of Development Studies, University of Sussex, UK. This group of researchers and practitioners is involved in sharing knowledge, in strengthening capacity to support quality participatory approaches, and in deepening understanding of participatory methods, principles, and ethics. For further information please contact: Jane Stevens, IDS, University of Sussex, Brighton BN1 9RE, UK.
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participatory learning and action

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Scientists are clear that climate change is happening. Those likely to be worst affected are the world's poorest countries – especially poor and marginalised communities. Industrialised countries accept that they have a responsibility to help these countries to adapt. Yet most adaptation efforts have been top-down, with little attention paid to communities' experiences of climate change and their efforts to cope with their changing environments. This special issue focuses on recent approaches to climate change adaptation which are community-based and participatory. It highlights innovative participatory methods to help communities analyse the causes and effects of climate change, integrate scientific and community knowledge, and plan appropriate adaptation measures. Although CBA is a relatively new field, lessons and challenges are beginning to emerge, including the need to bring together disaster risk reduction, livelihoods, and climate change adaptation work, issues around the type and quality of participation in CBA, and the need for policies and institutions that support it.

Participatory Learning and Action is the world's leading informal journal on participatory approaches and methods. It draws on the expertise of guest editors to provide up-to-the minute accounts of the development and use of participatory methods in specific fields. Since its first issue in 1987, *Participatory Learning and Action* has provided a forum for those engaged in participatory work – community workers, activists, and researchers – to share their experiences, conceptual reflections and methodological innovations with others, providing a genuine 'voice from the field'. It is a vital resource for those working to enhance the participation of ordinary people in local, regional, national, and international decision-making, in both South and North.

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