



Executive Summary and Recommendations

NCAP Writeshop
24th – 28th April 2006
The Netherlands

Executive Summary

Pre Disaster Planning for Adaptation to Climatic Changes

Sustainable Development must address the issue of increased anthropogenic greenhouse gases leading to accelerated climate change. Kyoto implies recognition of a polluter pays principle that underpins the agreement which addresses both mitigation and adaptation. It is important that mitigation remains the central strategy because unequal pollution of the global climate commons is inequitable and continuation demonstrates neglect of environmental sensibility. Adaptation however also needs to be addressed including the issue of compensation. While there are many approaches to adaptation it is perhaps best captured in a widened form of pre-disaster planning.

To ensure sustainable approaches to pre-disaster planning for adaptation to climate change risks requires a set of principles underpinning the approach that reflect the need to bring together both top down and bottom up approaches. Incorporating holistic approaches to pre-disaster planning and adaptation is vital. Social learning is a key cross-cutting method for developing social and institutional capacity for the holistic and shared approach needed for assessing vulnerability to climate change and climate variability risks. Table 1 outlines the principles underpinning this approach and represents a merger of top down and bottom up approaches.

Table 1: Pre Disaster Planning Principles

Pre Disaster Planning Principles
Sustainable Development
Risk Avoidance
Embedded in Policy and Practices
Distributed to the appropriate level
Shared responsibility
Learning from scientific evidence, indigenous knowledge and experience
Adjusting to changes
Institutional and Organizational Development and Social Learning

Assessing the risk to vulnerable communities and systems that climate change driven episodes presents is the starting point. Social learning is the vehicle to empower communities to employ methods to identify adaptive strategies that will respond to changing conditions. Institutional and organizational responsiveness is an essential component for ensuring that pre-disaster planning feeds both up and down throughout the structure. In this way pre disaster planning can help to reduce risk at the local level and strengthen responses at the national level.

Choice and Role of Methodology in Assessment

Choice of method is important. There are formal methods, for example, the UK government Green Book that sets out how cost-benefit analysis should be applied in public sector decision making. Similarly planning guidance establishes what factors a planning officer can take into account.

But for our purposes stakeholder frameworks are useful approach. They are informal; a set of customary procedures, social networks and individual preferences that come together in public or private forums where decisions are made. While such frameworks may not be explicit or documented, it is still possible to map stakeholder interests,

document their conceptual frameworks and explore what kind of information or decision support processes would influence their decisions. Informal and formal frameworks often co-exist, and more than one interpretation of the 'rules' may be current within an organisation.

The range of analytical frameworks is diverse, and needs to be reconciled with stakeholder decision making.

There are a number of methodological issues that follow from this demand-led approach. Synthesis and communication are important, including case based learning, integration tools and visualisation. Technical choices linked to methodology include understanding of the baseline, socio-economic reference scenarios, climate risks and data, resources and skills required. Coordination and implementation of a project is a special skill. Other issues are likely to arise and need to be resolved by the research-stakeholder team.

The outcome is to support adaptation decisions—seen as an iterative process of social learning. Adaptation may take different forms whether formulating policy, strategies or measures for specific implementation. But decisions on adaptation need to be placed in the context of the risks that climate change and climate variability. This requires reliable and informed data on future climate patterns.

Climate Scenarios and Future Risks

If the planned adaptation is meant to be robust, addressing present climatic risks but also effective for a range of future risks, then the issue of future climate scenarios comes into play.

Climate scenarios should not be developed in isolation from an understanding of current climatic conditions. Most of the NCAP countries have reasonable climate data and documentation of current climate normals and trends is available. However, the density

of station coverage and the monitoring of some climate variables (e.g. evaporation) may be lacking for applications at a very local scale.

In many locations, trends in climate are apparent. These may not be statistically significant, but there are noticeable and provide an entry point into climate change. For instance, in Mali it has been warming for several decades and rainfall appears to be decreasing, although it is subject to considerable variation.

Projecting climate change over the next few decades is still a problem. Researchers see the scenarios as plausible, but there is no way to know if they are accurate forecasts. Most of the NCAP projects are relying on relatively simple climate scenarios (e.g. MAGICC/SCENGEN) from several climate models.

A sense of the likelihood of climate change may be available from looking at a range of scenarios. The IPCC has compiled scenarios for the AR4 process. A more extensive approach is large ensemble runs, such as from the Climate Prediction Network that may reveal important shifts in probabilities.

Climate change science is rapidly improving, and many expect far improved regional forecasts within a few years. Nevertheless, scenario projections should be viewed as a guided sensitivity test rather than a formal prediction of climate change. Assistance in keeping up to date, both for the observed climate and new scenarios of climate change, is important. If adaptation is a process of social learning, the continual provision of current climate information is critical.

The next step in an impact assessment is to link the climate observations and scenarios to impact models, such as in water planning, land use/land cover and crop production. Often these models have their own requirements and procedures for interpreting climate scenarios, so consistency between impact sectors may be an issue. Climate inputs are only one uncertainty in impact models: additional sensitivity testing is often required. A

Monte Carlo approach to sensitivity testing might be one way to integrate different assessments conducted at a higher resolution.

Assessing Risks and Vulnerability

Adaptation is a process, of social learning, risk evaluation and management and negotiation among stakeholders and vulnerable populations. There are many outcomes of adaptation processes, some are a reduction in vulnerability and poverty, but others might be a decision to accept increased risks now in order to invest in other social and economic strategies.

Assessment frameworks should be chosen to support adaptation as processes of social learning. Learning by doing and living experiences are often key to social learning. Case-based methodologies exist, but are not often employed in climate change studies. With broader experience of adaptation, methodologies that focus on gathering and comparing experiences, including the meta-analysis of what works and what doesn't, will be relevant. Communicating case experience in valid but also visual ways is essential.

Tools for Planning, Measures and Action

In considering how vulnerable countries and communities might best adapt to climate change and so reduce their vulnerability, the use of tools for planning, measures, and action are a key component of the process. Tools are simply instruments and means to obtain more information for understanding complex processes, implementing adaptive solutions, and monitoring/evaluating these actions taken. Such tools can be used to help decide which actions could best be taken and where and when this could best be done or improved – based on the assessment of available data and information. Improving our collective understanding of how to better identify, transfer, and apply planning tools for adaptation can better inform the adaptation policy process by clarifying the context and process in which they are or might be used.

It is important that tools for adaptation be able to reflect local needs, be highly linked to the problem at hand, and account for the iterative social learning process in stakeholder settings so as to ensure their effectiveness and efficiency. Indeed, the decision regarding which tools should be selected is highly linked to the overall context in which it is to be used. This emphasizes the need to have a good understanding of a conceptual framework for understanding the role of tools in the adaptation process, specific criteria by which to choose the most suitable tool for a given context, and insights from experience in using tools.

Regarding the conceptual framework, there are several key elements. First, account must be taken regarding the type of adaptation being considered or managed i.e., whether **planned** or **autonomous** adaptation. Autonomous adaptation refers to the changes that natural and (most) human systems undergo in response to changing conditions in their immediate environment, irrespective of any broader plan or policy-based decisions. Planned adaptation describes the result of decisions that are based on an awareness that conditions have changed or are about to change, and that some type of action is required to achieve, maintain or return to a desired state. It is this type of latter adaptation that requires the use of various types of planning tools.

Second, in assessing vulnerability and adaptation to climate change and climate variability, “top-down” and “bottom-up” approaches are often used. Top-down assessments are often used for conducting national or sectoral assessments using tools that aim to understand the impacts of system-wide perturbations in the climate regime on the physical productivity of regions and economic sectors. Bottom-up approaches offer a way to investigate issues of concern to local communities and to plan, implement, and evaluate adaptation activities within a participatory context. Both types of approaches can be applied to either very local or very macro scales, as well as being complementary to each other.

Third, account must be taken of the adaptation context regarding “mainstreaming” or “streamlining” approaches. Mainstreaming refers to the integration of policies and

measures that address climate change and climate variability into overall development planning and ongoing sectoral decision-making. Streamlining refers to the possibility of making targeted adaptation interventions within a particular sector or domain. Both mainstreaming (i.e. centralized, ministry-level) and streamlining (i.e. decentralized, and local-specific) can be considered to be complementary to each other and pose distinct implications for the choice of planning tool. Finally, a thorough understanding of local vulnerability and resilience conditions is central to understanding the choice of tool(s) for use in the assessment of adaptation options.

As important as the conceptual framework is the set of specific criteria used to select the particular tool. The number and type of tools for vulnerability and adaptation are numerous, as is the diversity of the location, purpose and expectations where they are applied. A decision over the choice of tool infers a certain power to shape the perception of the problem and its potential solutions. The key criteria to help in deciding which tool is best for a particular context consists of the following stakeholder relevance, contribution to social learning, and user-friendliness.

Finally, the role of experience is key to the iterative process of social learning. For this reason, several case studies in the selection and application of tools are provided from Suriname, Yemen, Vietnam, and Bolivia.

Recommendations

1) While there are many approaches to adaptations to climatic disasters, it is perhaps best captured in a widened form of pre-disaster planning. Pre-disaster planning is a basic component of adaptation needed to help cope with, and respond to, climate change and climate variability. Planning must be conducted through national mechanisms that promote local capacity, such that local people are responsible for their own adaptation choices

2) To ensure that good information on climate change and climate variability at the local level is effectively disseminated, linkages from global centres of expertise on climate research to national focal points and to the local level are established. Information must be disseminated in ways that are relevant, timely and transparent and be in the language of the local level. This mechanism should value both scientific and indigenous knowledge equally, so that information flows in both ways.

3) Social learning should be pursued as a core activity of the process of adaptation at all levels. Social learning is a process of learning by doing, or living and learning from experience. Integrating methods of assessment are important. Case-based methodologies exist, but are not often employed in climate change studies. With broader experience of adaptation, methodologies that focus on gathering and comparing experiences, including what works and what doesn't, will be relevant. Accessible communication of case experience is essential.

4) The right suite of tools for the assessment of adaptation actions should be chosen. The conceptual framework for choice requires attention to several important dimensions including, among others, partnership with stakeholders, top down/bottom up issues, mainstreaming/streamlining approaches, technology transfer challenges, local capacity assessment, and regional versus ecosystem focus. But of equal importance are the criteria including comparability, user-friendliness, appropriateness to stakeholders, and linkage to problem definition.

5) Both the top-down and bottom-up approaches can address both human and physical dynamics. Hence, both approaches are valuable, can be complementary to each other, and should be considered in every adaptation planning process. Given their importance, a thorough understanding of local vulnerability and resilience conditions is central to understanding the choice of tool(s) for use in the assessment of adaptation options.

6) The amount of financial assistance available through Overseas Development Assistance (ODA) is unlikely to be sufficient to cover the future costs of adapting to climate change and climate variability. In addition, using ODA to pay for damages caused by human induced climate change may contravene the Polluter Pays Principle and Articles 2 and 4 of the Climate Convention (concerning equity and common but differentiated responsibilities). It may therefore be preferable use ODA exclusively to build the capacity of developing countries to more fully understand

climate change and to improve developing countries abilities to negotiate a fair and reasonable solution to the problem, and to explore ways in which new and additional funds be created to cover the costs of adapting to climate change. In light of the above, it would be sensible to further study these issues, including the possible application of the polluter pays principle as guiding policy for climate adaptation funding.