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Bridge Over Troubled Waters
Linking Climate Change and Development

Executive Summary

The issue of climate change can seem remote, compared with such immediate problems as poverty, disease and economic stagnation. Yet, climate change can directly affect the efficiency of resource investments and eventual achievement of many development objectives. How development occurs also has implications for climate change itself and the vulnerability of societies to its impacts. There is therefore a need to link climate change considerations with development priorities.

Considerable analytical work has already been done on how development can be made climate-friendly in terms of helping reduce greenhouse gas emissions which cause climate change, although implementation remains a challenge. Much less attention has been paid to how development can be made more resilient to the impacts of climate change. In a narrow engineering sense, it could, for example, involve taking into account impacts such as sea level rise and glacial lake outburst floods in the siting and design of bridges and other infrastructure. At a policy level it could involve considering the implications of climate change on a variety of development activities including poverty reduction, sectoral development, and natural resource management. Bridging the gap between the climate change and development communities, however, requires more than a simple dialogue. This is because they have different priorities, often operate on different time and space scales, and do not necessarily speak the same language. Specific information is therefore needed on the significance of climate change for development activities along with operational guidance on how best to respond to it within the context of other pressing social priorities.

This volume synthesises the results of an OECD project on the opportunities and trade-offs faced in "mainstreaming" responses to climate change in development planning and assistance. Six country case studies reviewed climate change impacts and vulnerabilities, analysed relevant national plans and aid portfolios and examined in depth selected areas of natural resource management where climate change is closely intertwined with development: water resource management on the Nile in Egypt, coastal mangroves in Fiji and Bangladesh, glacier retreat and water resource management in Nepal, economic development and natural resource management on Mount Kilimanjaro in Tanzania, and forestry and agriculture in Uruguay. A primary

focus of this work was on mainstreaming adaptation to the impacts of climate change, although links between greenhouse gas mitigation, natural resource management and development priorities were also considered.

A summary assessment

Several findings have emerged from this work which reinforce the need for, and the challenges faced in, taking climate change into account in development planning and activities.

Climate change is already affecting development

In addition to natural climate variability, long-term trends and climate change are already having a discernible impact on development. This is particularly the case for the impacts of glacier retreat and increased risk of glacial lake outburst flooding which are closely related to observed trends in rising temperatures. Clearly, a diverse range of development activities, from design of hydropower facilities to rural development and settlement policies, will need to adapt to the impacts of both current and future climate risks.

Future climate change impacts may also need consideration in development planning

Even in cases where the impacts of climate change are not yet discernible, scenarios of future impacts may already be sufficient to justify building some adaptation responses into planning. One reason is that it could be more cost-effective to implement adaptation measures early on, particularly for long-lived infrastructure. Another reason is that, in many contexts, current development activities may irreversibly constrain future adaptation to the impacts of climate change. This could be true, for example, in the case of destruction of coastal mangroves, or development of human settlements in areas that are likely to be particularly exposed to climate change. In such instances, even near term policies may need to consider the long-term implications of climate change.

A significant portion of development assistance is directed at climate-sensitive activities

An analysis of the composition of Official Development Assistance flows to the six case study countries indicates that a significant portion is directed at activities potentially affected by climate risks, including climate change. Expressed as a percentage of total national official flows, estimates range from as high as 50-65 per cent in Nepal to 12-26 per cent in Tanzania. While any

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classification of this nature suffers from oversimplification, the analysis underscores the fact that consideration of climate risks is often important for development investments and projects.

Development activities routinely overlook climate change and often even climate variability

Some weather and climate considerations are routinely taken into account in a wide range of activities, from crop selection to the design of highways and energy generation facilities. However, not all climate risks are being incorporated in decision making, even with regard to natural weather extremes. Nor are practices that take into account historical climate necessarily suitable under climate change. Many planning decisions focus on shorter timescales and tend to neglect the longer-term perspective. An analysis of national development plans, poverty reduction strategy papers, sectoral strategies and project documents in climate-sensitive sectors indicates that such documents generally pay little or no attention to climate change, and often only limited attention to current climate risk. Even when climate change is mentioned, specific operational guidance on how to take it into account is generally lacking.

Barriers to mainstreaming climate change

Why is it so difficult to implement and mainstream responses to climate change – particularly adaptation – within development activity? Lack of awareness of climate change within the development community and limitations on resources to implement response measures are the most frequently cited explanations. They may well hold true in many situations, but underlying them is a more complex web of reasons.

Segmentation and other barriers within governments and donor agencies limit mainstreaming

Climate change expertise is typically housed in environment departments of governments and donor agencies which have limited leverage over sectoral guidelines and projects. Sectoral managers and country representatives may also face "mainstreaming overload", with competing agendas such as gender, governance and environment vying for integration within core development activities. Many development projects continue to be funded over three to five year time horizons, and as such may not be the best vehicle for long-term climate risk reduction. Adaptation to climate change may also have more

difficulty attracting resources than more visible activities such as emergency response, post-disaster recovery and reconstruction, where funding modalities are better established.

Available climate information is often not directly relevant for development-related decisions

Development activities are sensitive to a broad range of climate variables – only some of which can be reliably projected by climate models. Temperature, for example, is typically easier to project than rainfall. Climate extremes, which are often critical for many development-related decisions, are much more difficult to project than mean trends. There is also a mismatch between the time and space scales of climate change projections and the information needs of development planners. For example, the primary sensitivity of development activities to climate is at a local scale (such as a watershed or a city), for which credible climate change projections are often lacking.

Sometimes there are trade-offs between climate and development objectives

Mainstreaming could also prove difficult to carry out because of direct trade-offs in certain cases between development priorities and the actions required to deal with climate change. Governments and donors confronting pressing challenges, such as poverty and inadequate infrastructure, have few incentives to divert scarce resources to investments that are perceived as not paying off until climate change impacts fully manifest themselves. Putting a real value on natural resources and deciding when *not* to develop coastal areas or hillsides may also be seen as hampering development. At the project level, mainstreaming can be thought of as complicating operating procedures with additional requirements or considerations, or raising costs. In addition, short-term economic benefits that often accrue to a few in the community can crowd out longer-term considerations such as climate change. Shrimp farming, mangrove conversion and infrastructure development, for example, provide employment and boost incomes, but they may also promote maladaptation and increase the vulnerability of critical coastal systems to climate change impacts.

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Opportunities for the road ahead

Several opportunities exist for more effective integration of climate change considerations within development activities.

Making climate information more relevant and usable

Development practitioners need access to credible and context-specific climate information as a basis for decisions. This includes information on the cost and effectiveness of integrating adaptation or mitigation measures within development planning. Perhaps even more fundamental in the case of adaptation is information on the impacts of climate change and variability on particular development activities. While it would be naïve to call for a significant reduction in scientific uncertainty in climate model projections, more can be done to facilitate transparent communication of this uncertainty to development practitioners. Analysis of the costs and distributional aspects of adaptation could also assist sectoral decision makers in determining the degree to which they should integrate such responses within their core activities.

Developing and applying climate risk screening tools

In addition to improving the quality of climate information, tools and approaches are needed to assess the potential exposure of a broad range of development activities to climate risks and to prioritise responses. Also needed are more sophisticated screening tools at the project level, in order to identify the key variables of relevance to the project, how they are affected by climate change and what implications this has on the viability of the project. Field-testing of such screening tools and their diffusion to a wide range of project settings could greatly advance the integration of climate risks in development activities.

Identifying and using appropriate entry points for climate information

Identification of appropriate entry points for climate change information in development activities is greatly needed. Potential entry points for the use of climate information and for integrating adaptation include land use planning, disaster response strategies and infrastructure design. Environmental Impact Assessments (EIAs) could be another entry point for mainstreaming both

mitigation and adaptation. The implications of projects for greenhouse gas emissions could be included in EIA checklists. However, EIA guidelines would need to be broadened to include consideration of climate change impacts. This is because current guidelines only consider the impact of a project or activity *on* the environment, and not the impact of the environment on the project. It is also important to embed climate change considerations within planning mechanisms and ensure that the responsibility for co-ordination lies with an influential department. Furthermore, attention should be given not only to investment plans but also to legislation.

Shifting emphasis to implementation, as opposed to developing new plans

In many instances, rather than requiring radically new responses, climate change only reinforces the need for implementation of measures that already are, or should be, environmental or development priorities. Examples include water or energy conservation, forest protection and afforestation, flood control, building of coastal embankments, dredging to improve river flow and protection of mangroves. Often such measures have already been called for in national and sectoral planning documents but not successfully implemented. Reiteration of the measures in elaborate climate change plans is unlikely to have much effect on the ground unless barriers to effective implementation of the existing sectoral and development plans are confronted. Putting the spotlight on implementation, therefore, could put the focus on greater accountability in action on the ground.

Encouraging meaningful co-ordination and the sharing of good practices

Institutional mechanisms need to be developed to forge links between mainstreaming initiated under the international climate change regime and the risk management activities of national and sectoral planners. A corollary link could be between activities initiated to achieve development objectives, such as the Millennium Development Goals, and more bottom-up consideration of the impacts of climate change. Greater engagement of the private sector and local communities in mainstreaming efforts is also needed. Another priority that has not received sufficient attention is trans-boundary and regional co-ordination. Most climate change action and adaptation plans are at the national level while many impacts cut across national boundaries. Meaningful integration of a range of climate risks, from flood control to dry season flows to glacial lake hazards, would require greater co-ordination on data collection, monitoring and policies

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at the regional level. Finally, operational guidance on comprehensive climate risk management in development is needed to facilitate policy coherence, allow for joint building of experience and promote sharing of tools and experiences within and among governments and development co-operation agencies.

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ADB	Asian Development Bank
CBD	Convention on Biological Diversity
CDM	Clean Development Mechanism
COP	Conference of the Parties
CRS	Creditor Reporting System
DAC	Development Assistance Committee (of the OECD)
EIA	Environmental impact assessment
EU	European Union
GCM	General circulation model
GEF	Global Environment Facility
GHG	Greenhouse gas
GLOF	Glacial lake outburst flood
GTZ	Gesellschaft für Technische Zusammenarbeit (German development agency)
IPCC	Intergovernmental Panel on Climate Change
LDCF	Least Developed Countries Fund
LDCs	Least developed countries
MDG	Millennium Development Goal
NAPA	National Adaptation Programme of Action
NGO	Non-governmental organisation
NORAD	Norwegian Agency for Development Co-operation
ODA	Official Development Assistance
OOF	Other official flows
PRSP	Poverty Reduction Strategy Paper
SCCF	Special Climate Change Fund
SRES	Special Reports on Emission Scenarios
UMICs	Upper middle income countries
UNCCD	United Nations Convention to Combat Desertification
UNFCCC	United Nations Framework Convention on Climate Change