

Putting Climate Change Adaptation in the Development Mainstream

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Introduction

Climate change poses a serious challenge to social and economic development. Developing countries are particularly vulnerable because their economies are generally more dependent on climate-sensitive natural resources, and because they are less able to cope with the impacts of climate change.

How development occurs has implications, in turn, for climate change and for the vulnerability of societies to its impacts. Climate change adaptation needs to be brought into the mainstream of economic policies, development projects, and international aid efforts.

Considerable analytical work has 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, this could involve taking climate changes into account 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 adaptation and development communities, however, is not easy. The two communities 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 adapt to its impacts, within the context of other pressing social priorities.

This *Policy Brief* looks at how far current development policies and programmes are taking climate change risks into account, as well as at ways to improve the “mainstreaming” of adaptation to climate change in development planning and assistance. ■

How does climate change affect development?

Climate is closely intertwined with development. For one thing, climate is a resource in itself, and it affects the productivity of other critical resources, such as crops and livestock, forests, fisheries and water resources. Natural fluctuations in climate such as those related to the El Niño phenomenon cause widespread disruptions in society's ability to harness resources and even to survive.

But human development choices also have a demonstrable impact on local and global climate patterns. Over-construction contributes to the formation of urban "heat islands"; deforestation and changes in land use can influence regional temperature and rainfall patterns; and increases in greenhouse gas concentrations as a result of industrial activity are responsible for global climate change.

In addition to natural climate variability, long-term climate trends and climate change are already having a discernible impact on development. A clear example is the close link between rising temperatures in the Himalayas and the incidence of glacier retreat and increased risk of potentially catastrophic glacial lake outburst flooding. A diverse range of development activities, from design of hydropower facilities to rural development and settlement policies, will need to adapt to such impacts.

Even where the impacts of climate change are not yet this obvious, scenarios of future impacts can, in many cases, justify ensuring that adaptation responses are built into planning. One reason is that it can be more cost-effective to implement adaptation measures early, particularly for long-lived infrastructure. Another reason is that current development activities may irreversibly affect future adaptation to the impacts of climate change. Examples include destruction of coastal mangroves and the building 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.

The effects of climate change may be especially critical to the achievement of development objectives related to the most vulnerable groups and communities. The projected impact of climate change on access to natural resources, heat-related mortality and spread of vector-borne diseases such as malaria, for example, has direct implications for the achievement of several of the Millennium Development Goals. ■

How much aid goes to climate-sensitive activities?

An OECD analysis of Official Development Assistance (ODA) flows to six developing countries indicates that a significant portion of this aid is directed at activities potentially affected by climate risks, including climate change (Figure 1). Estimates range from 50-65% of total national official flows in Nepal, to 12-26% in Tanzania. In monetary terms, this represents half a billion US dollars of official aid flows in Bangladesh and Egypt, and about USD 200 million in Tanzania and Nepal. In Fiji, while the absolute amount may be low, it constitutes roughly one-third of all aid flows. Uruguay is the exception because it receives very little ODA: as it is an upper middle income developing country, most of its official flows are loans, primarily in activities not directly exposed to climate risk.

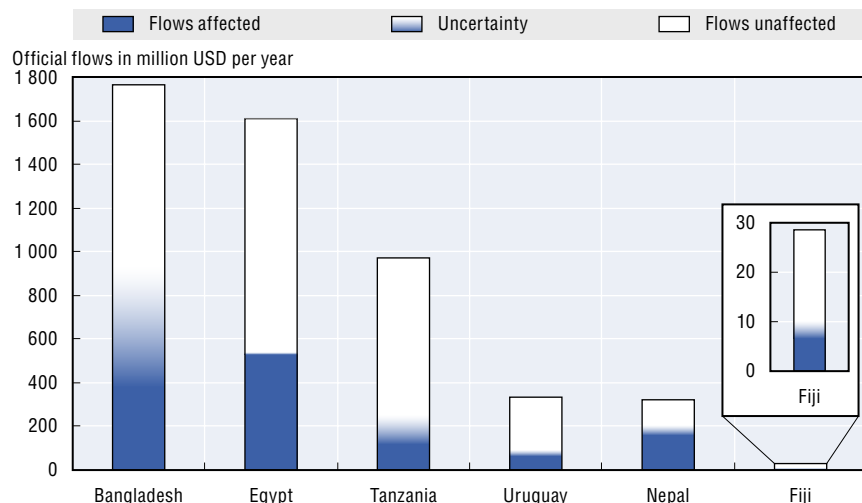
While there is a risk of oversimplification in any such classification, the analysis underscores the fact that taking climate risks (including climate change) into account is often important for development investments and projects. ■

Do development activities take climate change adaptation into account?

Some weather and climate considerations are routinely taken into account in a wide range of development 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. Moreover, practices that take into account historical climate are not 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 pay 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. ■

Figure 1.
ANNUAL OFFICIAL FLOWS AND SHARE OF ACTIVITIES POTENTIALLY AFFECTED BY CLIMATE CHANGE



Source: *Bridge Over Troubled Waters: Linking Climate Change and Development* (Paris, OECD, 2005).

What are the main barriers to mainstreaming adaptation to climate change?

Lack of awareness of climate change within the development community and limitations on resources for implementation are the most frequently cited reasons for difficulties in mainstreaming adaptation to climate change within development activity. These explanations may hold true in many situations, but there is also a more complex web of reasons underlying them:

- *Barriers within governments and donor agencies:* Climate change expertise is typically the domain of environment departments in governments and donor agencies, and such departments have limited leverage over sectoral guidelines and projects. Sectoral managers and country representatives may also face “mainstreaming overload”, with issues such as gender, governance and environment also vying for integration in development activities. Moreover, as many development projects are funded over three to five years, they may not be the best vehicle for long-term climate risk reduction. Adaptation to climate change *ex ante* may also have more difficulty attracting resources than more visible *ex poste* activities such as emergency response and post-disaster recovery.
- *Insufficient relevance of available climate information to 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 that of a watershed or a city), for which credible climate change projections are often lacking. ■

Box 1.

TRADE-OFFS BETWEEN CLIMATE CHANGE AND DEVELOPMENT

In certain cases, there are direct trade-offs between development priorities and the actions required to deal with climate change. Governments and donors confronting immediate challenges, such as poverty and inadequate infrastructure, have few incentives to divert resources to investments that are seen as not paying off until climate change impacts are full-blown.

Putting a real value on natural resources and deciding when not to develop coastal areas or hillsides may be seen as hampering development. At the project level, mainstreaming of adaptation may be perceived as complicating operating procedures or raising costs.

In addition, short-term economic benefits that often accrue to only 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 reduce the future ability to adapt to the impact of climate change and increase the vulnerability of critical coastal systems.

How can climate change adaptation be better integrated in development?

Several opportunities exist for more effective integration of climate change adaptation within development activities. These include making climate change information more useful and easier to use, focusing more on implementing climate change and development strategies, and increasing co-ordination between development and climate change policies.

Making climate information more relevant and usable: Development practitioners need access to credible, context-specific climate information as a basis for decisions. This includes information on the cost and effectiveness of integrating adaptation measures within development planning. Perhaps even more fundamental is information on the likely impact 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 ensure that this uncertainty is made clear 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 such screening tools and using them in a wide range of project settings could greatly advance the integration of climate risks in development activities.

Using appropriate “entry points” for climate information: There is a need to identify the appropriate points at which to introduce climate change adaptation into development activities. Potential entry points include land use planning, disaster response strategies and infrastructure design. Environmental impact assessments could be another entry point for mainstreaming both climate change mitigation and adaptation. The implications of projects for greenhouse gas emissions could be included in checklists for such assessments. However, guidelines for environmental impact assessments would need to be broadened to include climate change impacts. Current guidelines consider only the impact of a project or activity on the environment, not the impact of the environment on the project. It is also important to incorporate climate change considerations in planning mechanisms and to ensure that the responsibility for co-ordination lies with appropriate implementation agencies. Furthermore, attention should be given not only to investment plans but also to legislation.

Shifting emphasis to implementation rather than developing new plans: In many instances, rather than requiring radically new responses, adaptation to climate change only reinforces the need to implement measures that already are, or should be, environmental or development priorities. Examples include water or energy conservation, forest protection and afforestation, flood control, building 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 have not been successfully implemented. Reiterating these measures in elaborate climate change plans is unlikely to have much real effect 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 transboundary and regional co-ordination. Most climate change action and adaptation plans are at the national level, although many of the impacts of climate change 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 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. ■

For further information

For more information about the links between climate change and development, and the OECD's work in this area, please contact:

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For further reading

- OECD (2005), **Bridge Over Troubled Waters: Linking Climate Change and Development**, OECD, Paris, ISBN 92-64-01275-3, 154 p., € 26.
- OECD (2004), **The Benefits of Climate Change Policies: Analytical and Framework Issues**, OECD, Paris, ISBN 92-6410831-9, 323 p., € 90.
- Inter Agency Report (2003), **Poverty and Climate Change: Reducing the Vulnerability of the Poor through Adaptation**, by AfDB, ADB, DFID (UK), BMZ (Germany), DGIS (The Netherlands), OECD, UNDP, UNEP, and the World Bank.

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