



Adaptation Finance under a Copenhagen Agreed Outcome

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Abbreviations

AAU	Assigned amount unit
AFB	Adaptation Fund Board
AOSIS	Alliance of Small Island States
AWG-KP	Ad-Hoc Working Group on the Kyoto Protocol
AWG-LCA	Ad-Hoc Working Group on Long-term Cooperative Action
BAP	Bali Action Plan
CBDR	Common but differentiated responsibilities
CCSAP	Climate Change Strategy and Action Plan (Bangladesh)
CDM	Clean Development Mechanism
CER	Certified emission reductions
CM	Compact Model (of the UK’s Future Financial Architecture for Climate Change)
CMP	Conference of the Parties serving as the Meeting of the Parties
COP	Conference of the Parties
DAC	Development Assistance Committee (of the OECD)
EU	European Union
FDI	Foreign direct investment
GCCA	Global Climate Change Alliance
GDP	Gross domestic product
GEF	Global Environment Facility
GFDRR	Global Facility for Disaster Risk Reduction and Recovery
GNP	Gross national product
GNI	Gross national income
IET	International emissions trading

IPCC	Intergovernmental Panel on Climate Change
IPCC AR4	Intergovernmental Panel on Climate Change, Fourth Assessment Report
JI	Joint Implementaion
LDC	Least Developed Countries
LDCF	Least Developed Countries Fund
LEG	Least Developed Countries Expert Group
MAF	Multilateral Adaptation Fund
MCCF	Multilateral Climate Change Fund (Mexican)
MCII	Munich Climate Insurance Initiative
MDG	Millennium Development Goals
MDTF	Multi-Donor Trust Fund for Climate Change
MIE	Multilateral implementing entity
MRV	Measurable, reportable, verifiable
NAP	National Adaptation Plan
NAPA	National Adaptation Programme of Action
NC	National Communication
NGO	Non-governmental organisation
NIE	National implementing entity
ODA	Official development assistance
OECD	Organisation for Economic Co-operation and Development
PPCR	Pilot Programme for Climate Resilience
PPP	Polluter-pays principle
PRSP	Poverty Reduction Strategy Paper
RBM	Results-based management
RFM	Reformed Financial Mechanism
SBI	Subsidiary Body for Implementation
SIDS	Small Island Developing States
SCCF	Special Climate Change Fund
SPA	Strategic Priority “Piloting an Operational Approach to Adaptation” (of the GEF)
TNA	Technology Needs Assessment
UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme
UNFCCC	United Nations Framework Convention on Climate Change
UN BOA	UN Board of Auditors
UN OIOS	UN Office for Internal Oversight Services
USD	United States dollars
WBCSD	World Business Council for Sustainable Development
WWF	World Wildlife Fund

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EXECUTIVE SUMMARY

Adopted at the thirteenth session of the Conference of the Parties to the United Nations Framework Convention on Climate Change (UNFCCC COP 13) in December 2007, the Bali Action Plan (BAP) raised the political status of adaptation and opened discussions on international adaptation finance. Since COP 13, financing has in fact proved to be a significant stumbling block in climate change negotiations under the UNFCCC. This report provides a comprehensive reporting and analysis of the issues and principles underlying this impasse, as well as the most current proposals and options on adaptation financing available to Parties. In so doing, **this report presents options for overcoming obstacles and reaching an agreement on adaptation financing as part of a Copenhagen Agreed Outcome** at COP 15 in Copenhagen in December, 2009. It submits that **such an agreement on adaptation financing is in fact vital to reaching a post-2012 international agreement on climate change.**

Negotiations on adaptation financing under the UNFCCC have to date addressed questions of both supply and demand. On the supply side of the adaptation financing equation, Parties are faced with questions such as “what are the adaptation needs in developing and particularly vulnerable countries that call for new and additional resources?” On the demand side of the adaptation financing equation, Parties must address questions such as “what are the requisite levels of new and additional financial resources?” and “how can these be generated and delivered?” In addition to modalities around the generation and delivery of funds for adaptation, Parties are also concerned with agreeing to a legitimate and transparent governance mechanism to control the entire financing chain.

Research framework

To approach this complex web of questions around the demand, supply and governance of adaptation finance, this report addresses three key questions:

- How should adaptation finance be *delivered* to developing countries, in terms of meeting needs, ensuring fair access, prioritising particularly vulnerable countries, prioritising urgent adaptation actions, and ensuring coherence with overall development planning?
- How should adaptation finance be *governed*, in terms of ensuring appropriate provision of new funds, day-to-day management of the funds, and allocation of funds among eligible developing country Parties?
- How should adaptation finance be *generated* from existing and new sources, ensuring that they are (at least partly) new and additional, adequate, predictable and sustainable?

By starting with questions of delivery then governance, before asking from where financing should come and in what amount, the report is able to focus foremost on financing *needs*, how they can be satisfied through delivery mechanisms, and how

financing might be governed in a way acceptable to all Parties. The extant adaptation funding gap and how it can be addressed in a Copenhagen Agreed Outcome is addressed secondarily. In reversing the more common and sequential order – which would look first at generation, then governance, and finally delivery – it is hoped that this new approach might provide new perspective to all actors concerned. Two cross-cutting issues, on the potential role of the private sector and on underlying questions of equity and trust, also provide new insight and observations.

Main findings

Although a report that addresses an on-going negotiations process will by definition be outdated by the time it comes off the press, this report also attempts a more permanent message by distilling six overarching recommendations on adaptation finance under a Copenhagen Agreed Outcome. For purposes of this Executive Summary, main findings of the report are summarised within these overarching recommendations.

1. An agreement on adaptation finance is crucial to the success of the Copenhagen negotiations.

The Bali Action Plan is explicit in attaching equal importance to enhanced efforts on both adaptation and mitigation. Whereas until recently the success of climate negotiations was measured in terms of what was agreed on mitigation, developing countries have made it clear that without a deal on adaptation, there is unlikely to be a deal on mitigation. An agreement on adaptation finance is therefore important beyond its significance to supporting adaptation activities in developing countries: an agreement on adaptation finance is in fact significant to the whole of the Copenhagen Agreed Outcome.

The report observes that an agreement on adaptation finance is requisite to a Copenhagen Agreed Outcome in part because an agreement on adaptation is necessary for compliance with internationally agreed principles of equity, existing commitments under the Convention and previous decisions by the Conference of the Parties (chapter 2). For the existing trust deficit to be bridged, Parties must first make an effort to mutually understand principles of equity, including common but differentiated responsibilities, polluter pays, and notions of inter- and intra-generational equity. This understanding of what is fair must translate into a joint vocabulary on burden-sharing arrangements (chapter 8).

2. Uncertainty about the investment and financial flows needed for adaptation should not be used as an excuse for not acting decisively.

Article 3.3 of the Convention states that “where there are threats of serious or irreversible damage, lack of full scientific certainty should not be used as a reason for postponing such measures”. This precautionary principle applies as much to climate science as it does to economics. Moreover, the National Adaptation Programmes of Action (NAPAs) have provided a clear picture of the urgent and immediate adaptation needs of the Least Developed Countries, and even though the global estimates are imprecise, they give an idea of the magnitude of the problem. There is no uncertainty

about the fact that the financial needs for adaptation in developing countries are greater than what is currently available in the various funds for adaptation.

This uncertainty has of course not been left completely unaddressed. To the contrary, a range of legitimate adaptation needs has been identified by the UNFCCC. Existing assessments show that the need to adapt is greatest in primary sectors, such as agriculture, water resources and coastal resources, underscoring the close interlinkages between adaptation and development (chapter 3). Although needs assessments will require continuous updating, existing assessments, especially the NAPAs, should be used and commitments to financially support their implementation should be honoured. A more explicit timeframe for the implementation of adaptation would be useful for clarifying the need for international policy action and multilateral support. Adaptation needs could be more clearly defined with respect to the short (immediate), medium (up to 2020), and long (beyond 2020) term (chapter 3).

3. Decisions about the implementation of adaptation activities are the responsibility of individual Parties, based on their national circumstances.

The role of the COP and related bodies is to facilitate adaptation, most importantly by ensuring the provision of adequate financial flows. Consistent with the subsidiarity principle, adaptation actions need to be prioritised and implemented in a country-driven manner at the national or sub-national level, rather than negotiated at the international level. By devolving adaptation decision-making to the national level, coherence with other national priorities (e.g. poverty eradication) can be pursued within national strategies. In addition, discussions on the desirability of stand-alone vs. mainstreamed and project vs. programme activities is then also devolved to the national level.

In terms of funds disbursement, this report emphasises the essential role of the public sector in the delivery of adaptation finance, as adaptation is often a public good. As such, various forms of public intervention are needed to create an enabling environment for adaptation undertaken by other actors and for facilitating non-public kinds of financial flows. In addition to public sector delivery, there are clear roles for civil society (chapter 4) and private sector delivery (chapter 7), but these are not as reliable as public sector delivery and as such should be supplemental (chapter 4).

4. The allocation of adaptation finance to developing countries must be guided by an assessment based on agreed, objective and measurable criteria.

Agreement needs to be reached on measurable allocation criteria that can be used in an objective manner to decide the share of adaptation finance to which eligible countries are entitled. These criteria should then be applied in a rule-based assessment at the national level, rather than to inform decisions on individual projects. Eligibility criteria for adaptation finance have already been agreed in previous COP decisions. A further narrowing of the eligibility criteria (e.g. through a vulnerability index) should be avoided.

Related to allocation, access for developing countries to UNFCCC funds must be simplified under a Copenhagen Agreed Outcome as compared to present procedures. This entails not only clear rules for direct access, but also a clear and stable framework on how eligibility and prioritisation based on countries' vulnerability is determined. Other criteria such as coherence with national development plans, cost-effectiveness and appropriateness also need to be internally prioritised (chapter 4).

Furthermore, delivery of adaptation finance from the UNFCCC and Global Environment Facility (GEF) (as well as from official development assistance (ODA)) has primarily focused on adaptation assessment, planning and capacity-building. The future finance, including under the Kyoto Protocol Adaptation Fund, should focus on allocating adaptation finance to the implementation of concrete adaptation projects (Stage III activities) (chapter 4).

5. A substantial degree of consolidation of international adaptation funding streams is required to ensure an efficient, fair and flexible disbursement process.

The current fragmented system of funds: (i) makes it difficult to ensure that eligible countries receive their fair share of adaptation finance; (ii) hampers in-country prioritisation of adaptation activities; (iii) does not allow countries to create synergies between adaptation objectives and other priorities; and (iv) hinders the assessment of developed countries' compliance with their financial commitments. By ensuring a consolidation of funding streams at the international level, consolidation at the national level becomes a given.

6. A multiplicity of sources will be necessary to provide adequate levels of funding to meet current and future adaptation needs in developing countries.

If funding streams are consolidated at the international level, the use of multiple sources of adaptation finance does not need to result in further fragmentation. Adaptation finance can comprise both voluntary and mandatory financing. Mandatory financing can be provided through: (i) assessed national contributions; (ii) international levies; or (iii) obligations passed on to the private sector, as well as through a combination of these. Mandatory contributions need to be new and additional beyond existing ODA levels, and be certified for verification of compliance. While resources can be mobilised through the various channels, they should be disbursed in an integrative fashion. Delivering on adaptation, regardless of whether a vulnerability-based or a more impact-focused approach is adopted, will be more efficient and effective through the pooling of available resources for development and adaptation, and the strengthening of existing development processes and mechanisms. The issue of additionality is best addressed at the finance generation stage.

This report submits that to generate new and additional financial resources under a Copenhagen Agreed Outcome, Parties should decide either to specify a level of finance to be provided within a certain timeframe together with guidelines for accounting, or to specify the fundraising instruments to be used in order to generate new and additional

funds (chapter 6). Based on the criteria within the Bali Action Plan (BAP) and the broader United Nations Framework Convention on Climate Change (UNFCCC) context, the report identifies a number of specific mandatory financing options that fall within the categories presented above (assessed national contributions, international levies, obligations passed on to the private sector, or combinations thereof). These include establishing nationally assessed contributions as the principal long-term revenue source for adaptation; extending the Clean Development Mechanism (CDM) levy to Joint Implementation (JI) and phasing this out over time; seeking to set aside the allowance value for adaptation purposes in all domestic and regional emission trading programmes; using the hold back of international allowances (AAUs) as a backstop; and implementing a passenger air travel levy as a complementary source of adaptation funding (chapter 6).

1 INTRODUCTION

KEY MESSAGES

- The objective of this report is to provide a comprehensive picture of the issues surrounding adaptation finance as relevant to a Copenhagen Agreed Outcome by addressing all stages of adaptation finance: generation, governance and delivery of finance.
- The report reverses this more common and sequential order of generation, governance and deliver, to ensure an analysis strongly grounded in adaptation needs. It instead looks first at how sufficient finance could be delivered to ensure fair and urgent access for developing countries, then at how it could be governed, and finally at options for generating finance for adaptation from new and existing sources.
- It also examines two issues that cut across the various adaptation finance stages: the importance of equity and trust-building when designing the financing architecture to support adaptation, and the potential role of the private sector in supporting or complementing public sector financial flows.

1.1 Background: adaptation under the UNFCCC

From the outset of the international climate regime, it was recognised that in addition to the need to mitigate emissions of greenhouse gases and adapt to climate change, there was a responsibility on developed countries to support vulnerable developing countries in this process. Article 4.4 of the United Nations Framework Convention on Climate Change (UNFCCC), adopted in 1992, states that:

[t]he developed country Parties and other developed Parties included in Annex II shall also assist the developing country Parties that are particularly vulnerable to the adverse effects of climate change in meeting costs of adaptation to those adverse effects.

Despite this legal recognition of adaptation needs and responsibility for assistance, the issue of adaptation was long overshadowed by the issue of mitigation and related commitments by Parties to the Convention and to the Kyoto Protocol. However, with increasing scientific evidence of the inevitability of climate change and its particularly adverse effects on the developing world, such as that presented in the Fourth Assessment Report of the Intergovernmental Panel on Climate Change (IPCC AR4), among others, the political pressure from developing countries and other observers to take firmer action on adaptation, including its financial implications, has gained momentum.

In preparation for a new, post-2012, international agreement on climate change to be adopted at the fifteenth session of the Conference of the Parties (COP 15) in Copenhagen in December 2009 (referred to hereinafter as a “Copenhagen Agreed Outcome”), the Bali Action Plan (BAP) was adopted at COP 13 in 2007 (1/CP.13).

The BAP was an important milestone in raising the political status of adaptation and laying the foundation for a more detailed discussion of international adaptation finance. The BAP launched “a comprehensive process to enable the full, effective and sustained implementation of the UNFCCC through long-term cooperative action, now, up to and beyond 2012”, and started a systematic process of discussions and negotiations. Importantly, the BAP attached equal importance to “enhanced action” on both mitigation and adaptation. Box 1.1 describes the aspects of adaptation to be considered in a post-2012 international agreement on climate change, as agreed at COP 13.

**Box 1.1: Text of the BAP on enhanced action on adaptation
(Decision 1/CP.13, para. 1.c.i-v)**

- International cooperation to support urgent implementation of adaptation actions, including through vulnerability assessments, prioritization of actions, financial needs assessments, capacity-building and response strategies, integration of adaptation actions into sectoral and national planning, specific projects and programmes, means to incentivize the implementation of adaptation actions, and other ways to enable climate-resilient development and reduce vulnerability of all Parties, taking into account the urgent and immediate needs of developing countries that are particularly vulnerable to the adverse effects of climate change, especially the least developed countries and small island developing States, and further taking into account the needs of countries in Africa affected by drought, desertification and floods;
- Risk management and risk reduction strategies, including risk sharing and transfer mechanisms such as insurance;
- Disaster reduction strategies and means to address loss and damage associated with climate change impacts in developing countries that are particularly vulnerable to the adverse effects of climate change;
- Economic diversification to build resilience;
- Ways to strengthen the catalytic role of the Convention in encouraging multilateral bodies, the public and private sectors and civil society, building on synergies among activities and processes, as a means to support adaptation in a coherent and integrated manner.

The BAP also prioritised “enhanced action on the provision of financial resources and investment to support action on mitigation and adaptation and technology cooperation.” A number of considerations were identified in relation to adaptation financing, including access to and provision of financial support for developing country Parties, innovative means of funding and creating incentives for the implementation of adaptation based on sustainable development policies (see box 1.2).

Box 1.2: Text of the BAP on enhanced action on the provision of financial resources and investment for mitigation and adaptation (Decision 1/CP.13, para. 1.e.i–vi)

- Improved access to adequate, predictable and sustainable financial resources and financial and technical support, and the provision of new and additional resources, including official and concessional funding for developing country Parties;
- Positive incentives for developing country Parties for the enhanced implementation of national mitigation strategies and adaptation action;
- Innovative means of funding to assist developing country Parties that are particularly vulnerable to the adverse impacts of climate change in meeting the cost of adaptation;
- Means to incentivize the implementation of adaptation actions on the basis of sustainable development policies;
- Mobilization of public- and private-sector funding and investment, including facilitation of climate-friendly investment choices;
- Financial and technical support for capacity-building in the assessment of the costs of adaptation in developing countries, in particular the most vulnerable ones, to aid in determining their financial needs.

Financing has emerged as one of the thorniest issues in the negotiations since Bali, and this report aims to shed light on avenues for overcoming obstacles and finding agreement. Parties have expressed very different ideas about the principles that should underpin an agreement on adaptation finance, and as a result have held widely diverging views on the role of the UNFCCC in generating, governing and delivering resources to support adaptation in developing countries. Nevertheless, Parties and observers have, over the past year and a half, developed a variety of more or less concrete proposals.

In the negotiations on adaptation finance, two questions have been pursued simultaneously, but not always in a coordinated fashion:

- What are the adaptation needs in developing countries, including particularly vulnerable countries, which call for new and additional financial resources?
- What level of new and additional financial resources should be provided, and how can these be generated and delivered?

The first question relates to the *demand* for adaptation finance and depends on what Parties consider to be legitimate adaptation needs. The range of legitimate adaptation needs to be matched with available and new means of financing is potentially very broad, considering the multiple categories of actions recognised in the BAP (see box 1.1). The second question relates to the *supply* of adaptation finance. As suggested by the BAP (see box 1.2), this goes beyond the “provision” of funds to include “improving

access”, “positive incentives”, “incentivisation” of adaptation based on sustainable development policies and “mobilisation of private sector funding and investment”.

In addition to the supply of and demand for adaptation finance, political requirements regarding the adaptation finance “system” must be developed under a Copenhagen Agreed Outcome. Not only must the generation and delivery of adaptation finance be seen as legitimate by Parties, but so must the governance mechanisms controlling the entire financing chain. If adaptation financing is conceived of as a three-stage process of generation, governance and delivery, negotiators and other commentators in the climate policy debate are confronted with the following key questions:

- How should adaptation finance be *generated* from existing and new sources, ensuring that they are (at least partly) new and additional, adequate, predictable and sustainable?
- How should adaptation finance be *governed*, in terms of ensuring appropriate provision of new funds, day-to-day management of the funds, and allocation of funds among eligible developing country Parties?
- How should adaptation finance be *delivered* to developing countries, in terms of meeting needs, ensuring fair access, prioritising particularly vulnerable countries, prioritising urgent adaptation actions, ensuring coherence with overall development planning and using appropriate modalities?

At each stage, different principles – such as equity, accountability or efficiency – can be weighted differently. Furthermore, each stage raises critical questions about how decision-making authority is assigned at the different administrative and political levels, as well as more technical questions over priority-setting, practical arrangements for the disbursement of funds, and monitoring and evaluation of the use of funds.

1.2 Objective and scope of this report

The objective of this report is to address the three key questions set out above, and thus provide a comprehensive picture of the issues surrounding adaptation finance, as relevant to a Copenhagen Agreed Outcome. The report discusses different proposals, mechanisms and arrangements for adaptation finance, identifies the opportunities and challenges associated with them and considers their effectiveness, appropriateness and equitability given stated and proposed principles. In addition, the report assesses the political feasibility of existing proposals, mechanisms and arrangements. The report is intended to inform the ongoing UNFCCC negotiations.

The scope of this report is broad. It includes both a discussion of adaptation needs and an assessment of how financial resources can be generated, governed and delivered to satisfy such needs. The focus, however, is on the *governance* and *delivery* of

adaptation finance rather than on generating funds.¹ It builds primarily on existing data and analysis available in academic literature, policy reports and submissions by Parties to the Ad-hoc Working Group on Long-term Cooperative Action (AWG-LCA), but also on personal communications with key stakeholders and observation of recent negotiations and meetings of the Adaptation Fund Board.

It should also be emphasised that the options and solutions for adaptation finance in a Copenhagen Agreed Outcome are currently a moving target. New proposals and positions are continually being presented by Parties, as well as factual reports and new research. Thus, a report such as this will of necessity have a limited shelf life. However, in considering the most recent submissions by Parties and using new and emerging analyses, we have chosen to not focus on the politics of the day but on more general issues, informed by our previous work as researchers in the fields of climate change adaptation and climate policy.

1.3 The structure of the report

Against the backdrop of the three key policy questions proposed above, *chapter 2* presents the state-of-play in the negotiations on adaptation finance. It places adaptation finance in the broader context of development policy, outlining the operational and policy complexities that this presents for adaptation. It also sets out the relevant and widely recognised legal and moral principles that can be – and are being – used in discussions on adaptation finance. There is also a discussion on the current situation of adaptation finance under the UNFCCC. The chapter outlines the contentious issues in the current negotiations on adaptation finance.

Chapters 3 to 6 discuss the full chain of adaptation finance. Analyses of this chain to date have typically started with the supply side, and then moved on to governance and delivery (see e.g. UNFCCC 2009c). This report, however, turns that structure around, starting with a bottom-up analysis of adaptation needs and asking how they can be satisfied in appropriate ways through delivery mechanisms, what this means for appropriate governance arrangements, and what levels of new and existing funds need to be mobilised through various means. This alternative structure is chosen in the hope that it will lead to new insights. Figure 1.1 summarises the structure of the report, starting from the adaptation needs and gradually moving on to what this means in terms of generation of finance, together with some key issues under each stage. The report also discusses two issues which cut across the stages of adaptation finance: the potential role of the private sector (*chapter 7*) and equity and trust issues (*chapter 8*).

In accordance with this structure and based on a discussion of definitions and typologies, *chapter 3* synthesises the current knowledge on adaptation needs (in terms of sectors, types of adaptation activity and geographical regions) as expressed

¹ This has already been discussed in some detail by, e.g., Müller (2008), Porter *et al.* (2008), Harmeling *et al.* (2009), Pendleton and Retallack (2009) and UNFCCC (2009a).

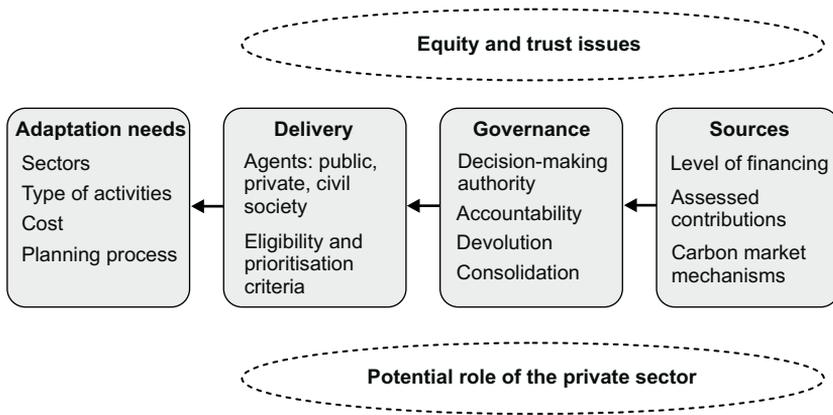


Figure 1.1: Stages of the adaptation finance chain and the structure of this report

in National Adaptation Programmes of Action (NAPAs) and elsewhere, and assesses estimates of adaptation costs in developing countries, as a background to discussing the desirable properties of delivery mechanisms. It also discusses the process of planning for adaptation, primarily at the national level, and the views of Parties on how this process could or should be organised under the UNFCCC.

Chapter 4 examines how these identified needs are currently responded to in terms of the delivery of financial resources. It analyses current and potential delivery from three types of delivery agent: the public sector (international and national, including delivery through the UNFCCC and official development assistance (ODA)), the voluntary sector and the private sector. Following this analysis, possible criteria for eligibility and the prioritisation of future funds under a Copenhagen Agreed Outcome are discussed.

Having gained a clearer picture of which adaptation needs can or should be delivered by funds under a Copenhagen Agreed Outcome, chapter 5 discusses the various governance arrangements that have been proposed for this purpose. This includes how decision-making authority – in relation to both the delivery of financing and the collection of funds from various potential sources – should be divided and balanced between the COP, a possible committee or body on adaptation, a technical secretariat, the national level and any other relevant institutions. Mechanisms for monitoring, evaluation and accountability are also discussed.

While the generation of potential sources of financing is not the main focus of this report (see above), chapter 6 nevertheless describes the adaptation funding gap and how it could be addressed in a Copenhagen Agreed Outcome – including through nationally assessed contributions. The main part of the chapter is devoted to an analysis of carbon market options for generating international funds, drawing on existing assessments as well as original scenarios for carbon market development over time.

In order to highlight two important and less understood cross-cutting aspects of adaptation finance, chapter 7 summarises the potential role of the private sector in adaptation finance, while chapter 8 discusses equity issues as they pertain to all stages of financing.

Finally, *chapter 9* summarises the main findings and critical issues, and highlights the most promising approaches which could inform and contribute to catalysing convergence in the negotiations.

2 KEY QUESTIONS ON ADAPTATION FINANCE FOR COPENHAGEN AND BEYOND

KEY MESSAGES

- An agreement on adaptation finance under a Copenhagen Agreed Outcome should be firmly based on, and consistent with, internationally agreed principles, existing commitments under the Convention and previous decisions by the Conference of the Parties.
- The operational and policy links between adaptation and development should not be confused. From an operational point of view, creating synergies between adaptation and development is desirable. From a policy point of view, however, adaptation finance should be seen as distinct from development assistance.
- There is broad agreement between developing and developed countries on the need to scale up finance for adaptation, but there are diverging views on critical issues, including the sufficiency of identified adaptation needs for resource allocations, the role of official development assistance (ODA) delivery mechanisms in adaptation, the need for new institutions under the Convention and the desirability of targets for nationally assessed contributions for adaptation finance.
- A Copenhagen Agreed Outcome can take a number of different legal forms, each of which may have implications for adaptation finance that as yet are uncertain and not well understood.

This chapter sets the scene for the rest of the report by providing further background to the three key questions presented in chapter 1. It introduces the broader policy context for adaptation finance, highlighting its role in both development policy and climate policy. It discusses adaptation finance in some detail from the perspective of the United Nations Framework Convention on Climate Change (UNFCCC), as this must be the basis for an agreement in Copenhagen. The chapter addresses justice and equity principles as articulated in international law generally, and embedded in the UNFCCC specifically. Recognition of these principles is fundamental to the context in which an agreement on adaptation finance is being negotiated, as this will ultimately shape Parties' and observers' understanding of – and thus ability to accommodate – the positions of others. Theory and practice suggest that understanding the perceptions of fairness held by others, in turn, affects trust among Parties and the likelihood of mutual compliance (this matter is discussed in more detail in chapter 8). Finally, the chapter discusses the contentious issues in the negotiations associated with each of the three stages and summarises where Parties currently stand on these issues.

2.1 Adaptation finance in a broader development policy context

Climate change is one of many challenges facing developing countries. In the short term, its importance is eclipsed by the need for poverty eradication, including securing access to food, energy, water and sanitation. The Millennium Development Goals (MDGs), agreed at the Millennium Summit in New York in 2000, contain a set of targets for 2015, including halving poverty. Climate change does not feature in the MDGs. This is in part because in 2002, climate change was still seen mainly as a longer term issue less relevant to 2015, but also because addressing climate change was considered a responsibility for developed countries. In the meantime, studies have shown that climate change is already happening, and that this is making the attainment of the MDGs more difficult (UNDP 2007).

The adverse effect of climate change on activities aimed at eradicating poverty, and the consequent need for adaptation to climate change to avoid setbacks in development, make adaptation a priority for development policy, regardless of its absence in the MDGs. Over the past five years or so, adaptation has become an emerging issue for bilateral and multilateral donor agencies, while developing countries themselves have invested in adaptation strategies. The extent to which adaptation changes the nature of foreign direct investment (FDI) is less well known, but there are indications that the private sector is recognising the importance of adaptation in its operations as well. Nonetheless, under the UNFCCC there is little interaction between Parties and the private sector on adaptation (see chapter 7).

ODA is explicitly meant to address poverty and contribute to meeting the MDGs. It also matters to adaptation to climate change. Climate change could directly affect the success of ODA interventions in the following ways (Klein 2001):

- climate change poses risks to development activity and its deliverables, such as water supply, food security, human health, natural resources management and protection against natural hazards;
- the vulnerability to climate change of the community or ecosystem that is intended to benefit from the development activity may impinge on how the project can be carried out; and
- the development project and its deliverables may have effects on the vulnerability of communities or ecosystems to climate change.

Donor agencies have begun to realise that it is in their own interests as well as those of the recipient countries to screen their portfolios for exposure to climate risks (e.g. see Klein *et al.* 2007). In addition, donor agencies have begun to look into the possibility of “climate proofing” their investments, that is, of designing projects and programmes in such a way that avoidable risks of climate change *are* avoided. For example, if a bridge were to be built across a river that may experience increasing peak flows under

a changing climate, then designing that bridge so that it will not be washed away is a form of climate-proofing. The Danish International Development Agency (Danida) was one of the first to recognise the relevance of climate risk screening and climate proofing. In 2005 it published a *Tool Kit for Climate-Proofing Danish Development Cooperation* as part of the Danish Climate and Development Action Programme. The tool kit defines climate proofing as: “Actions to ensure that development efforts are protected from negative impacts of climate change, climate variability, and extreme weather events and to ensure that climate-friendly development strategies are pursued to delay and reduce damages caused by climate change.”

ODA can also actively contribute to adaptation in developing countries. Many traditional development activities that are covered by the MDGs also serve to reduce the vulnerability of communities to climate change. For example, a healthy population is more likely to cope successfully with climate stress than an undernourished one; a population that can hold its leaders accountable is more likely to trust climate-related advice and warnings; and a government that can rely on functioning institutions is more likely to make effective adaptation decisions. The health and good governance goals in these examples correspond to the MDGs on child mortality (MDG 4), maternal health (MDG 5), combating diseases (MDG 6), empowering women (MDG 3), and developing a global partnership for development (MDG 8). In other words, traditional development activities build the capacity of communities and countries to adapt to climate change. On the other hand, poorly designed development activities can be “maladaptive”, that is, increase vulnerability to climate change.

The fact that ODA can make a contribution to adaptation in developing countries complicates the interpretation of UNFCCC article 4.4 (see section 1.1), which commits developed country Parties to assist the developing country Parties that are particularly vulnerable to the adverse effects of climate change in meeting the costs of adaptation to those adverse effects. The Bali Action Plan (BAP) (see box 1.2) states explicitly that support for adaptation should be in terms of “new and additional” finance, that is, money that is made available above and beyond that which is provided as ODA. Developing countries see adaptation finance as very different from ODA, and the governance system for ODA as unsuitable for the delivery of adaptation finance. In ODA there is a donor-recipient relationship which inevitably introduces a power balance in favour of the donor – which is able to impose conditionalities. In adaptation finance the relationship tends to be one between equal Parties, where developed countries have not only a moral responsibility but also a legal obligation to support developing countries.

A recent study by the World Resources Institute, the International Institute for Sustainable Development and the Stockholm Environment Institute (McGray *et al.* 2007) captures the complexity of adaptation by representing it as a continuum of activities. At one end, adaptation involves directly responding to the impacts of climate change; at the other end it involves addressing the underlying drivers of vulnerability. This continuum is shown in figure 2.1, which also indicates the possible roles of ODA and new and additional funding in supporting adaptation in developing countries.

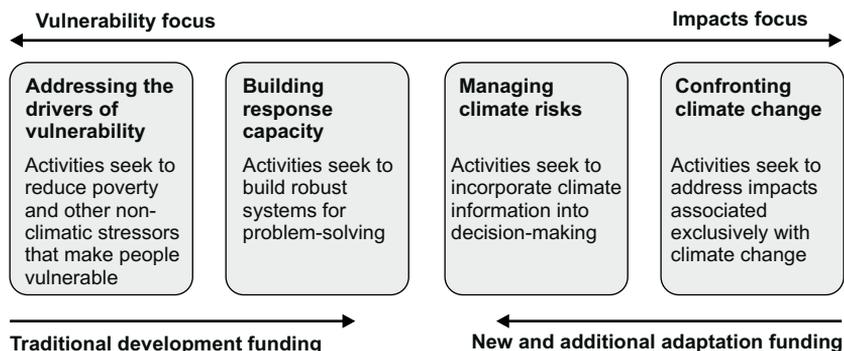


Figure 2.1: The adaptation-development continuum

Source: Adapted from McGray et al. (2007) in Klein and Persson (2008).

The complexity of the respective roles of the UNFCCC and ODA in supporting adaptation is exacerbated by the fact that adaptation to climate change is not a discrete activity that can be seen as independent of development. This may be the case only for the box on the right-hand side of figure 2.1. From an operational perspective, it is common sense to ensure that adaptation and development are designed and conducted in such a way that conflicts are avoided and synergies created. Climate proofing is one way of doing this, by incorporating climate risks into ongoing sectoral planning and decision-making processes. It could be possible to integrate (or “mainstream”) adaptation priorities into development in a more fundamental way, covering the full spectrum of adaptation as shown in figure 2.1 (see also Persson and Klein 2009). This is discussed in more detail in chapters 4, 5 and 6, including the fear that such mainstreaming of adaptation into development may lead to a situation in which it is no longer possible to account for new and additional funds for adaptation.

It is against this background that the present report analyses not only the role of a Copenhagen Agreed Outcome in generating, managing and delivering adaptation finance, but also the roles of domestic funding, ODA and private-sector finance. This more comprehensive picture is necessary even for the negotiations leading to a Copenhagen Agreed Outcome because Parties will weigh proposals on the role of the UNFCCC against the levels and channels of finance available beyond the UNFCCC. Arguments in favour or against a predominant role for the UNFCCC are considered.

2.2 Relevant legal and moral principles

Just as it is demonstrated above that the questions of how to generate, govern and deliver adaptation finance must be understood within broader development policy and climate policy realities, so too must these questions be considered in light of the set of normative legal principles that guide international environmental law. While a discussion of ethics and justice might seem theoretical for a practical report on global adaptation financing, the following short account draws on theory and practice

to demonstrate the relevance of legal principles to answering the three questions on adaptation financing that guide this report. More specifically, principles of international law such as those discussed below must be taken into account when negotiating a Copenhagen Agreed Outcome as they provide a context and a vocabulary to explain alternative bases for conflicts, complementarities and a rationale for how and why burden-sharing is to be carried out. That an agreement on adaptation financing must not violate these shared principles is perhaps not *legally* persuasive: although many of these principles are captured in the text of the UNFCCC, they are not universally accepted as binding international law (Halvorssen 2007). Furthermore, they are nearly impossible to enforce before a domestic or international court. Instead, the need to uphold these principles is of *pragmatic concern* to negotiators, because a shared understanding of fairness – in substance and process – in a negotiated outcome will inevitably affect trust among Parties to the agreement, the level of ambition and mutual compliance.

Here we turn briefly to a – non-exhaustive – list of moral and ethical principles that are substantively and procedurally relevant to a Copenhagen Agreed Outcome. This section looks at the articulation and interaction of norms of international law, and briefly at how these have been enunciated in agreements on development cooperation. Section 2.3 looks specifically at how these principles play out in the text of the UNFCCC.

Principles relevant to the generation of adaptation finance

The *polluter pays principle* (PPP) is a common point of departure when discussing burden-sharing under international environmental agreements. In stating that the costs of environmental pollution (greenhouse gas emissions, in the context of climate change) should be borne by those who caused the pollution, the PPP has an intuitive appeal. In practical terms, it translates as: developed countries have greater responsibility for the root causes of climate change, thus, developing countries must pay the global costs of climate change. This logic was extended to the context of financing for adaptation by the Netherlands at the thirteenth session of the Conference of the parties (COP 13) to the UNFCCC, when it argued that adaptation financing ought to “primarily come from an additional stream of funding [new and additional], based on the ‘polluter pays’ principle.” The Netherlands argued further that the polluters’ obligations extend to paying for the *consequences* of the pollution for those least able to cope, that is, for adaptation in developing countries (The Netherlands, Minister voor Ontwikkelingssamenwerking, 2007). Despite its intuitive appeal, the PPP faces a conceptual challenge when it comes to application: is the polluter a state (here, a Party to the UNFCCC), an individual, a past generation, a private entity or some combination thereof? Furthermore, how should developing countries’ increasing contributions to greenhouse gas emissions be accounted for? It has been proposed that to answer these questions, the PPP can be supplemented by complementary or competing principles, notably those of common but differential responsibilities and intra-generational equity, in order to obtain a comprehensive picture of what is just burden-sharing in the face of climate change impacts (Jagers and Duus-Otterström 2008; Caney 2005).

The equity principle of *common but differentiated responsibilities* (CBDR) as codified in the 1992 Rio Declaration (Principle 7) states that “In view of the different contributions to global environmental degradation, States have common but differentiated responsibilities”. One element of this principle recognises historical differences in the contributions of developed and developing countries to global environmental problems, such as greenhouse gas emissions, while a second element recognises differences in countries’ respective capacities to mitigate and adapt to the effects of these problems. A reiteration of CBDR in the UNFCCC (see article 3.1 in box 2.1.) makes clear its application to climate change commitments, including to adaptation. Concretely, while all countries share a common concern for limiting greenhouse gas emissions, differences in both historical contributions (responsibility) and capacity to contribute to solutions, including financial contributions to climate adaptation, should determine who foots the adaptation bill. Thus, where the PPP states that those with responsibility should pay, CBDR implies that those with responsibility and capacity should pay. By presenting a different answer to the question of “who is duty-bound to bear the global climate change burden?”, from a policy perspective, CBDR potentially provides a more pragmatic approach to adaptation finance. As expressed in the Rio Declaration and UNFCCC article 3.1, CBDR also attributes responsibilities specifically to states (Caney 2005), whereas PPP leaves open the question of the polluters’ identity. CBDR also provides the logical framework behind various burden-sharing proposals, such as the Greenhouse Development Rights framework, as discussed in chapter 8. Finally, by bringing capacity into question, CBDR leaves an opening for potential changes in which states are able to act in the light of changing capacities. To this end, *intra-generational equity*, between countries and also within countries, must also be considered when contemplating a fair contribution to adaptation finance. The intra-generational equity principle between countries is operationalised in the context of the Monterrey Consensus, which sets a target of an increase in ODA to 0.7 per cent of donor countries’ gross national product (GNP) (see section 6.3).

The interplay between past and future responsibilities weaves as a practical thread through this comparison of PPP and CBDR. Both principles regard the present generation as accountable for the policies and actions of past generations. Article 3.1 of the UNFCCC (see box 2.1) is also forward-looking, obliging Parties to protect the climate system for present and future generations. This expression of *inter-generational equity* as a duty of the present generation to preserve the environment it inherited for future generations seems objectively fair.

Finally, the *precautionary principle* as applied to questions of adaptation finance states that a lack of knowledge about costs should not be a reason to delay the provision of finance. It is encompassed in UNFCCC article 3.3 (see box 2.1).

Taken together, these principles seek to ensure that the benefits of development are shared in both time and space. The principles of PPP, CBDR, and inter- and intra-generational equity are relevant particularly to the question of sources and generation of financing for adaptation. Furthermore, they are primarily applicable when negotiating the substantive modalities of an adaptation financing agreement, with perhaps the

exception of intra-generational equity which can be seen as a matter of both substantive and procedural fairness. Other more general principles of international law are relevant to the questions of the governance and delivery of adaptation finance, and primarily address procedural fairness.

Principles relevant to the governance and delivery of adaptation finance

The principle of *good governance* relates to the rule of law and is normally linked to predictable decision-making, multi-stakeholder processes and anti-corruption measures. For this report, it is particularly relevant to discussion of the governance and delivery of financing – or creating an enabling environment for adaptation funds to be distributed. Good governance is furthermore essential to the trust-building exercise that must be undertaken by both developed and developing countries in the context of reaching an agreement on the logistics of adaptation finance. The principle of good governance is relevant at the international level (e.g. in achieving an appropriate balance of power with checks and balances, and representation of interests in the governance of international funds), the national level in developed countries (e.g. in providing finance in a timely and accountable manner that is measurable, reportable and verifiable), and the national level in developing countries (e.g. in adhering to fiduciary standards in the spending of adaptation funds, as well as in accountability to ultimate beneficiaries and vulnerable communities).

Public participation goes hand-in-hand with the principle of good governance, and is based on the notion that those who are to be affected by a decision have a right to be engaged in the decision-making process. For adaptation, this can be understood at the local level in terms of delivery, and at the national and international levels in terms of decisions on how financing should be managed and delivered. It could also relate to public access to effective judicial procedures to claim compensation should other policy aspirations fail.

Finally, the procedural principle of *subsidiarity* suggests that decisions should be taken at the level of authority in a given administrative hierarchy that is closest to those affected by the decision. Where developing countries insist on autonomous governance of adaptation funding (alternatively understood as country ownership, or country-driven adaptation financing) for reasons of entitlement, developed countries systematically assert that lack of institutional structures (absence of good governance) is a reason to maintain some sort of multilateral control. The riposte by developing countries that developed countries have themselves not demonstrated accountability in the context of other agreements, for example, the failure to approach the above-mentioned Monterrey target to increase ODA to 0.7 per cent of donor countries' GNP – illustrates what has been called a “climate of distrust” (Müller 2006).

This dynamic of competing principles is one that countries will need to come to terms with in the context of adaptation financing. While each of these principles may be intuitively or morally persuasive on their own terms, it is clear that collectively they sometimes conflict and compete. Opinions on what is equitable and just at all stages of

Box 2.1: UNFCCC articles relevant to adaptation finance

(emphasis added)

- **Article 3.1:** The Parties should protect the climate system for the benefit of present and future generations of humankind, on the basis of equity and in accordance with their *common but differentiated responsibilities and respective capabilities*. Accordingly, the developed country Parties should take the lead in combating climate change and the adverse effects thereof.
- **Article 3.3:** The Parties should take *precautionary measures* to anticipate, prevent or minimize the causes of climate change and mitigate its adverse effects. Where there are threats of serious or irreversible damage, lack of full scientific certainty should not be used as a reason for postponing such measures, taking into account that policies and measures to deal with climate change should be cost-effective so as to ensure global benefits at the lowest possible cost [...]
- **Article 3.4:** The Parties have a right to, and should, promote sustainable development. Policies and measures to protect the climate system against human-induced change should be appropriate for the specific conditions of each Party and should be integrated with national development programmes, taking into account that *economic development is essential for adopting measures to address climate change*.
- **Article 4.1:** All Parties, taking into account their common but differentiated responsibilities and their specific national and regional development priorities, objectives and circumstances, shall:
[...]
- (b) Formulate, implement, publish and regularly update national and, where appropriate, regional programmes containing measures to mitigate climate change.
[...]
- (e) Cooperate in preparing for adaptation to the impacts of climate change; develop and elaborate appropriate and integrated plans for coastal zone management, water resources and agriculture, and for the protection and rehabilitation of areas, particularly in Africa, affected by drought and desertification, as well as floods;
- (f) Take climate change considerations into account, to the extent feasible, in their relevant social, economic and environmental policies and actions, and employ appropriate methods, for example impact assessments, formulated and determined nationally, with a view to minimizing adverse effects on the economy, on public health and on the quality of the environment, of projects or measures undertaken by them to mitigate or adapt to climate change
[...]

- **Article 4.3:** The developed country Parties and other developed Parties included in Annex II shall provide *new and additional financial resources* to meet the agreed full costs incurred by developing country Parties in complying with their obligations under article 12, paragraph 1 [National Communications]. They shall also provide such financial resources, including for the transfer of technology, needed by the developing country Parties to meet the agreed full incremental costs of implementing measures that are covered by paragraph 1 of this article and that are agreed between a developing country Party and the international entity or entities referred to in article 11, in accordance with that article. The implementation of these commitments shall take into account the need for adequacy and predictability in the flow of funds and the importance of appropriate burden-sharing among the developed country Parties.
- **Article 4.4:** The developed country Parties and other developed Parties included in Annex II shall also *assist the developing country Parties that are particularly vulnerable* to the adverse effects of climate change in *meeting costs of adaptation* to those adverse effects.
- **Article 4.8:** In the implementation of the commitments in this article, the Parties shall give full consideration to what actions are necessary under the Convention, including actions related to funding, insurance and the transfer of technology, to meet the specific needs and concerns of developing country Parties arising from the adverse effects of climate change especially on:
 - (a) small island countries;
 - (b) countries with low-lying coastal areas;
 - (c) countries with arid and semi-arid areas, forested areas and areas liable to forest decay;
 - (d) countries with areas prone to natural disasters;
 - (e) countries with areas liable to drought and desertification;
 - (f) countries with areas of high urban atmospheric pollution;
 - (g) countries with areas with fragile ecosystems, including mountainous ecosystems;
 - [...]
- **Article 11.1:** A mechanism for the provision of financial resources on a grant or concessional basis, including for the transfer of technology, is hereby defined. It shall function under the guidance of and be accountable to the Conference of the Parties, which shall decide on its policies, programme priorities and eligibility criteria related to this Convention. Its operation shall be entrusted to one or more existing international entities.
- **Article 11.5:** The developed country Parties may also provide, and developing countries avail themselves of, financial resources related to the implementation of the Convention through *bilateral, regional and other multilateral channels*.

adaptation financing will differ not only between developed and developing countries, but also within countries and across generations. Section 2.3 discusses both overt and indirect expressions of principles in the text of the UNFCCC (summarised in box 2.1).

2.3 Adaptation finance under the UNFCCC

The relevance of adaptation beyond the UNFCCC has led to a debate over the role of the UNFCCC in supporting adaptation. Is its role primarily to facilitate adaptation action by other actors, or is it the international body with primary responsibility? This report demonstrates that there is no easy or straightforward answer.

The BAP seeks to enhance the implementation of the UNFCCC and not to reinvent the wheel. This means that the issue of adaptation finance needs to be considered against the principles and commitments agreed in the UNFCCC. Box 2.1 summarises relevant UNFCCC principles and commitments.

These legal principles established by the UNFCCC have been operationalised to some extent. At the seventh session of the COP (COP 7) in Marrakech in 2001, three financial instruments were established to support adaptation activities in developing countries:

- the Least Developed Countries Fund (LDCF);
- the Special Climate Change Fund (SCCF); and
- the Adaptation Fund.

In addition, in response to the outcome of COP 7, the Global Environment Facility (GEF) established the Strategic Priority “Piloting an Operational Approach to Adaptation” (SPA) under its Trust Fund. The GEF also manages the LDCF and the SCCF, while the Adaptation Fund is managed by the Adaptation Fund Board under the authority of the Meeting of the Parties of the Kyoto Protocol.

The GEF has provided funding to all non-Annex I Parties (developing countries and countries with economies in transition) to support enabling activities, such as vulnerability and adaptation assessments, as part of their National Communications. In addition, 48 Least Developed Country Parties have each received USD 200,000 from the LDCF to prepare National Adaptation Programmes of Action (NAPAs), which serve to identify urgent and immediate adaptation needs. Forty NAPAs have been submitted to the UNFCCC secretariat to date.

However, only 76 countries (about half of all non-Annex I Parties) have received support from the GEF-managed funds to address specific adaptation needs through implementing a total of 60 adaptation projects. More projects are in the pipeline, but several years can pass between project identification and project implementation. Table 2.1 shows the amounts of money available and disbursed to date under each fund. The

total amount in grants made available by November 2008 was USD 183 million, which is insignificant compared to estimated annual adaptation needs (see chapter 3). Chapter 4 discusses the delivery of adaptation finance by the GEF in more detail.

Table 2.1: Overview of funds available and disbursed for adaptation under the GEF-managed financial instruments, as of November 2008

	SPA	LDCF	SCCF	Total
Available funds, incl. pledges (USD million)	50	172	91	313
Total value of disbursed grants (USD million)	50	65	68	183
Number of projects	22	23	15	60
Average project grant (USD million)	2.3	2.8	4.5	3.0
Remaining funds, incl. pledges (USD million)	–	107	23	130

In accordance with article 12.8 of the Kyoto Protocol, Decision 10/CP.7 established the Adaptation Fund. It is not listed in table 2.1 because it is not yet fully operational. The Adaptation Fund is intended to support “concrete adaptation projects and programmes”. Unlike the funds listed in table 2.1, it is not based solely on voluntary contributions from donor countries but receives a 2 per cent share of proceeds from project activities under the Clean Development Mechanism (CDM). It can also receive funds from other sources.

While some steps towards operationalising the Convention as it pertains to adaptation finance have thus been taken in the past decade, it is clear that these are marginal in terms of the level of funding provided when compared with future adaptation cost estimates for developing countries (see chapter 3). Discontent with the design and implementation of existing funds has led some Parties to call for a more radical overhaul of the finance architecture for a Copenhagen Agreed Outcome.

2.4 Contentious issues in the negotiations on adaptation finance

The current negotiations on adaptation finance are informed by two recent reports produced by the UNFCCC secretariat. The first report, *Investment and Financial Flows to Address Climate Change*, provides estimates of the investment needs and financial flows required for both adaptation and mitigation (UNFCCC 2007a). The second report, *Investment and Financial Flows to Address Climate Change: An Update*, focuses on options, tools and mechanisms to generate, manage and deliver climate finance (UNFCCC 2009c). The current negotiations have revealed broad agreement among Parties about a number of issues, as presented by the chair of the AAWG-LCA at its fifth session in March 2009. For adaptation finance this includes that:

- adaptation and mitigation deserve equal attention and action;
- resources for adaptation need to be significantly scaled up; and

- adaptation finance should go beyond the current focus on project activities to address the full scale of adaptation needs.

In spite of this broad agreement on some issues, a number of contentious issues divide Parties in the negotiations on adaptation finance.² Put simply, Parties have a shared view on the need for and purpose of an agreement on adaptation finance, but not on the road that could lead to such an agreement. In particular, there is a divergence of views on how and at what level of adaptation finance should be generated, managed and delivered. In addition, there is uncertainty about what may constitute a politically feasible agreement, given the current economic crisis and the fact that a Copenhagen Agreed Outcome may need to be ratified by national parliaments.

Parties have raised the following issues concerning the key questions listed in chapter 1. These questions are summarised in table 2.2 and elaborated in subsequent chapters:

Adaptation needs

- Developing countries are of the view that their adaptation needs have been sufficiently expressed in their National Communications and, in the case of LDCs, their NAPAs to warrant an immediate increase in the availability of financial resources for adaptation. Some Parties and observers have called for USD 1–2 billion immediately, irrespective of a Copenhagen Agreed Outcome with its more long-term financing instruments. Additional cost estimates and national adaptation plans should not be a requirement for receiving adaptation finance. Some developed countries, however, have expressed the need for additional vulnerability and adaptation assessment (including costing of adaptation options) as a basis for prioritisation of support.

Delivery

- Developing countries see the public sector as having a primary role in delivering adaptation finance, whereas developed countries perceive an important role for the private sector.
- In comparison with the delivery of adaptation finance through ODA, developing countries consider that adaptation finance delivered under the Convention promotes higher levels of country ownership, imposes less conditionality, allows for direct access and ensures an equitable distribution of resources. Emphasising the close relationship between adaptation and development, developed countries consider that ODA provides suitable delivery mechanisms for adaptation finance.
- Among the developing countries there are different views on which countries are to be prioritised for adaptation finance. Some reaffirm the BAP, which refers to least developed countries, small island developing states and countries in

² Some Parties hold the view that adaptation encompasses action to address the adverse effects of climate change as well as action to address the impact of the implementation of response measures. In this report adaptation is understood only as action to address the adverse effects of climate change.

Africa prone to floods, drought and desertification. Other developing countries, in particular those not captured by the BAP, refer to paragraph 19 of the preamble of the Convention, which lists low-lying and other small island countries; countries with low-lying coastal, arid and semi-arid areas or areas liable to floods, drought and desertification; and developing countries with fragile mountainous ecosystems. This latter list is also applied by the Adaptation Fund Board in deciding on eligibility for the Adaptation Fund. Developed countries tend to prefer the prioritisation in the BAP.

Governance

- Developed countries consider the current governance system for adaptation finance to be adequate in principle. They highlight the comparative advantage of existing institutions, including the GEF, relevant Bretton Woods institutions and bilateral donor agencies. They see an opportunity to enhance (“make fit for purpose”) these institutions, and to continue the reform process for ODA, in such a way that resources for adaptation can address identified needs more effectively and efficiently. They consider that the Paris Declaration and the Accra Agenda for Action provide useful principles and lessons to be applied to adaptation finance.
- Developing countries stress that the current governance system for adaptation finance has failed, and see a need for a new and strong governance system including new institutions under the authority of the COP. They point out that existing bilateral and multilateral institutions, with their multiplicity of governance and mandates, prevent an effective and efficient response to adaptation needs. They argue that the Paris Declaration and the Accra Agenda for Action do not apply to adaptation finance because it is distinct from ODA.
- The BAP does not foresee the monitoring, reporting and verification of adaptation actions and finance. However, a consensus seems to be emerging on the desirability of including this in a Copenhagen Agreed Outcome. Developing countries emphasise the need to monitor, report and verify the provision of support for adaptation, while developed countries emphasise the same for adaptation actions.

Generation

- Developing countries see a need to agree nationally assessed contributions from developed countries to provide the lion’s share of finance for adaptation. In determining such contributions, Parties’ historic responsibilities for GHG emissions should be taken into account. Developed countries see a primary role for market-based approaches in generating resources for adaptation, in particular the auctioning of emission allowances.
- Developing countries insist that funding generated for adaptation is new and additional, that is, over and above the envisaged target for ODA of 0.7 per cent of developed countries’ GNP. In this light they have proposed concrete targets

for the generation of adaptation finance. For example, the African Group has proposed an annual target of at least USD 67 billion by 2020. Referring to article 11.5, developed countries interpret new and additional adaptation finance as going beyond current flows and see ODA as a component of this new and additional finance. Developed countries have not expressed views on adaptation funding targets.

These contentious issues will need to be resolved during the remainder of 2009 in order to contribute to a Copenhagen Agreed Outcome. The form of this Copenhagen Agreed Outcome is also a contentious issue.

Put simply, there are two possibilities for a Copenhagen Agreed Outcome. The first is a new protocol that supersedes the Kyoto Protocol and combines the negotiation outcomes of both the AWG-LCA and the Ad-Hoc Working Group on the Kyoto Protocol (AWG-KP) in a single document. The Kyoto Protocol would then be terminated after its first commitment period, assuming that the new protocol has entered into force following a parliamentary ratification process. The second option would be an amended Kyoto Protocol, combined with a series of decisions of the COP and the **Conference of the Parties serving as the Meeting of the Parties** with cross-linkages to ensure coherence.

A discussion of the desirability of either of the two legal forms is beyond the scope of this report. The draft negotiation text to be offered by the chair of the AWG-LCA is unlikely to pre-empt the legal form of a Copenhagen Agreed Outcome. The complexity of the issue goes well beyond adaptation finance, although this means there is a risk that the implications for adaptation finance posed by either legal form may not be given appropriate attention. For example, the future of the CDM may well affect the generation of resources for the Adaptation Fund.

Table 2.2: Summary of selected proposals by parties for future adaptation financing arrangements under the UNFCCC (See full table version in Annex I)

Proposal	Delivery	Governance	Sources	Principles
LDCs	A comprehensive and structured approach to incorporate into national development process and stand-alone adaptation	A Subsidiary Body under the Convention A Convention Fund A Work Programme on Adaptation for now and post-2012.	An Adaptation window, under the framework of the G-77 with assessed contributions	Equity and the principle of common but differentiated responsibilities; comprehensive.
China	NAPAs for all developing countries	Regional Adaptation Network Centres A Subsidiary body Adaptation Fund under the Convention	Assessed contributions	Follow Convention and provide new, additional, adequate and predictable resources for the implementation of adaptation.
EU, submitted in Accra	A Framework for Action on Adaptation (FAA), a partnership between developed and developing countries	FAA for coordination and cooperation. NCs could be used as a basis to communicate information. Adaptation Fund can play its full role in the financial architecture of the Copenhagen Agreed Outcome. Coherence with institutions elsewhere.	Engage public and private sector – a broad toolbox which can leverage private and public financial flows. Adjust their public.	Particular attention to the vulnerable Integration of adaptation actions into national and sectoral planning Tailor to particular impacts
Africa group	Adaptation Action Programme, a consolidated work programme to shift the focus from vulnerability assessment to the implementation	The institutional framework under the UNFCCC, and facilitate linkages with access to means of implementation based on science	In line with G77 proposal on finance, USD 67 billion / year	In agreement with the Convention. Be massively scaled-up, beyond the integration of adaptation into the development process, and include stand-alone adaptation projects and be country driven
Japan	An information-sharing mechanism	A clearing house where countries present their needs and these are matched with the most adequate existing financing channels.	Scale up resources in existing financing channels	Targeted to the most vulnerable

Proposal	Delivery	Governance	Sources	Principles
G77	A comprehensive Adaptation Framework including insurance that requires compliance.	Implementation arrangements to address enabling activities, such as knowledge sharing; functional implementation, projects on the ground and coordination mechanisms.	A window for adaptation in line with the G77 proposal on finance presented in Accra with assessed contributions of 1% GDP.	Convention principles guided by equity and precautionary principles; promote coherence
Brazil, submission April 2009	Increased access to means of implementation for nationally determined adaptation priorities at different levels	Linkages with other: international bodies and (1) establish national and regional centres, or strengthen existing ones, and (2) a mechanism, under the Convention, to enable partnerships and (3) a mechanism to address loss, including insurance	Be predictable and stable, new and additional, adequate and timely for both urgent and long term; on assessed and mandatory contributions and ensure direct access to financial resources.	Common but differentiated responsibilities guided by equity; promote coherence; support projects and programmes ; be country-driven; cover full costs
Nicaragua submission in April	Preparation, implementation and NAPAs or NCs, or TNAs for ALL needs	A new subsidiary body on adaptation, an Executive to manage three new funds: the Adaptation Fund, the Multilateral Climate Technology Fund (MCTF); and a Mitigation Fund, including a scheme for positive forest incentives relating to REDD options.	The transfer of financial resources from the Adaptation Fund under the Kyoto Protocol up to 2% CDM + % of ERUs and AAUs from ETS levy on international airfares and maritime transport freight + A global carbon tax + Innovative financial instruments	Agreement on SV should be linked to a series of more specific and mutually coherent agreements included in COP decisions.
South Africa, submission April 2009	A comprehensive and action-oriented international programme with a mechanism to address means of implementation for developing countries.	A national coordinating body to address all aspects of the means of implementation, strengthening the institutional capacity of national focal points with separate funding for national coordinating bodies through a direct line item in the secretariat's.	Not Specified in the Submission	A country driven, coordinated and multi sector approach involving all national stakeholders, private and public A transparent, inclusive equitable, efficient and effective use of funding with programmatic approach

Proposal	Delivery	Governance	Sources	Principles
New Zealand	A Framework on Adaptation to create enabling environments, building capacity aiming to strengthen mechanisms under the Convention for risk and adaptation	Build on and enhance what already exists under the Convention (e.g. NWP), in existing regional centres, and in other international efforts, such as the UN International Strategy for Disaster, with the aim of increasing coherence among them.	Parties may provide financial resources through bilateral, regional and other multilateral channels with widely accepted principles of mutual accountability centralised funds under Convention and other channels as per UNFCCC article 11.5	(a) States have the primary responsibility (b) it must be integrated into development; (c) Capacity-development is central; (d) Community participation; (e) Customised to particular settings; (f) priority to the most vulnerable.
Australia submitted April	Preference for mainstreaming; develop NAS with objectives for adaptation actions beyond urgent needs with assistance for particularly vulnerable; emphasis on programmes and approaches with reporting through NCs.	Transforming the LEG into an (1) Adaptation Advisory Panel to develop broad guidance for developing NAS and provide support for particularly vulnerable countries, and Regional Centres to harness existing expertise and in facilitating knowledge exchange.	Scaling up in the level of international finance availability for adaptation, and clear guidance on the prioritisation of the distribution and use of international funds (stated in Poznan).	Country-driven, involving all relevant stakeholders; developed and implemented in the context of broader sustainable development; and informed by continuous learning and evidence-based vulnerability assessment processes.
AOSIS	A structured but flexible approach with a Multi-Window Mechanism to address loss and damage	A Permanent Adaptation Committee (PAC) under the Convention; A Multi-Window Multi-Window Mechanism Board; Technical Advisory Facility and a Financial Vehicle Facility	Assessed contributions based on the level of countries' GHG emissions and international revenue generation schemes	New and additional; predictability; grant-based consistent with the polluter-pays-principle; A new approach to governance; and coherence and coordination.

3 ASSESSING, COSTING AND PLANNING FOR ADAPTATION NEEDS

KEY MESSAGES

- Adaptation is not well-defined in the Convention, which is one reason why needs assessments and cost estimates are uncertain and possibly underestimated. However, a Copenhagen Agreed Outcome should not be prevented by the absence of a definition.
- A range of different types of legitimate adaptation needs have been identified in various United Nations Framework Convention on Climate Change (UNFCCC) documents, and this diversity may be challenging when deciding on the allocation of scarce funds.
- Existing assessments show that the need to adapt is greatest in primary sectors, such as agriculture, water resources and coastal resources, underscoring the close interlinkages between adaptation and development. The assessments do not show a clear prioritisation for either “hard” or “soft” measures, or for vulnerability- or impact-focused adaptation. Furthermore, disaster risk reduction will apparently become an increasingly important adaptation activity in the future.
- A majority of adaptation projects already completed (although not necessarily funded under the UNFCCC) have been undertaken at the community level and were not necessarily planned as adaptation projects. Adaptation benefits have instead been “serendipitous”. More systematic analysis of past and completed projects would improve learning and inform a future adaptation regime.
- Although needs assessments will need to be continually updated, especially with regard to longer term and less immediate needs, existing assessments, especially the National Adaptation Programmes of Action, should be used and commitments to financially support their implementation should be honoured.
- A more explicit, and potentially common, timeframe for implementation of adaptation would be useful for clarifying the need for international policy action and multilateral support. Adaptation needs could be more clearly defined with respect to the short (immediate), medium (up to 2020?), and long (beyond 2020?) term.

3.1 Introduction

This chapter characterises *identified adaptation needs* in order to further clarify what adaptation financing needs to be delivered for, and to discuss the current status of and future needs for *adaptation planning processes*. Building on existing studies, this characterisation addresses dimensions such as sector of adaptation, type of adaptation activity and geographical region, in order to inform the examination in chapter 4 of the

existing and potential roles of delivery channels, and their potential complementarity. Adaptation needs have been costed and such estimates are reviewed here to inform the discussion in chapter 6 of possible sources and levels of financing. Finally, the processes by which adaptation needs have been assessed, prioritised and planned for in the past are reviewed, together with a discussion of how Parties currently wish to address such planning processes under a Copenhagen Agreed Outcome. The chapter begins with a brief discussion of definitions and typologies for adaptation and why they are relevant to how adaptation may be conceived under a new agreement.

3.2 Definitions and typologies for adaptation

What is meant to be financed when we talk about adaptation finance? What kind of adaptation can or should be included in a Copenhagen Agreed Outcome? An important element that is missing from the UNFCCC regime is a commonly accepted, concrete and discriminating definition of adaptation. None of the recent submissions by Parties proposes definitions. This is not surprising given the nebulous and complex nature of the phenomenon of adaptation. Different understandings are implicitly proposed by different actors and in different contexts. However, the definitions of key terms provide by the Intergovernmental Panel on Climate Change give a common point of reference (IPCC 2007, emphasis added):

- Adaptation: “[a]djustment in *natural or human systems* in response to actual or expected *climatic stimuli* or their effects, which moderates harm or exploits beneficial opportunities. Various types of adaptation can be distinguished, including anticipatory, autonomous and planned adaptation . . .”.
- Adaptive capacity: “[t]he 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”.
- Vulnerability: “[t]he degree to which a system is susceptible to, and unable to cope with, adverse effects of *climate change*, including *climate variability* and extremes. Vulnerability is a function of the character, magnitude, and rate of climate change and variation to which a system is exposed, its sensitivity, and its adaptive capacity”.

From these definitions, it can be inferred that adaptation includes both human and natural systems. This means that adaptation can involve both the environmental and the economic/social policy realms, and protect the rights of humans and nature. Furthermore, the IPCC avoids qualifying adaptation in terms of a particular level of climate change (as opposed to climate variability or climatic stimuli). Such a qualification under the UNFCCC would thus have to be a political rather than scientific decision. It is questionable whether these broad and generic definitions are sufficiently precise to be used in a legal context, in particular when there are very large but potentially scarce sums of funding at stake. The Adaptation Fund Board, in its latest draft of operational

policies and guidelines, defines an adaptation project as “a project aimed at addressing the adverse impacts of and risks posed by climate change” (AFB/B.5/4, para. 38). This leaves significant scope for interpretation, for example, regarding:

- whether “addressing” means reducing underlying socio-economic vulnerability, physically mitigating the climate impact or something else;
- what level of severity qualifies as “adverse”;
- what the inclusion of “risk” (as opposed to “impact”) means in terms of acceptable uncertainty ranges;
- whether impacts and risks affecting both humans and nature are included.

What this definition appears to make clear, however, is that only projects addressing impacts from climate change, and not climate variability, are eligible for funding.

For adaptation financing under a Copenhagen Agreed Outcome, there are both advantages and disadvantages to having a *narrow definition of adaptation*. While a narrow definition would allow greater precision and targeting in the use of scarce international public finance for adaptation (potentially complemented by non-UNFCCC financial flows embracing a broader understanding of adaptation), it may also lead to demanding application and approval processes that could result in the exclusion of certain desirable activities. A learning mechanism whereby explicit or implicit definitions are continually evaluated is one way of overcoming this problem. Unfortunately, the experience of the Adaptation Fund will not provide lessons soon enough for the fifteenth session of the Conference of the Parties (COP 15).

One of the key categories for characterising adaptation needs, which is intimately connected to what is defined as adaptation and thus eligible for financial support, is the *type of adaptation activity*. Numerous typologies exist and have been used in different ways in different settings and documents. In the UNFCCC context, for example, the recently updated UNFCCC report on investment and financial flows defines three categories of adaptation activities (UNFCCC 2009c: 12):

- “actions that climate-proof socio-economic activities by integrating future climate risk;
- actions that expand the adaptive capacity of socio-economic activities to deal with future and not only current climate risks;
- actions that are purely aimed at adapting to impacts of climate change and would not otherwise be initiated”.

- The “Focus document” in which AWG-LCA chairs compiled proposals suggested a sort of typology, by listing seven types of “adaptation actions” that could be supported financially under a new climate agreement (UNFCCC 2009b: 8):
- “preparation and implementation of national adaptation plans in developing countries. This would involve supporting activities encompassed at all adaptation stages, including climate change risk, impact and vulnerability assessment, planning, implementation and monitoring;
- integration of adaptation into sectoral and national planning;
- risk reduction and management;
- technologies for adaptation;
- creation and sustainment of enabling environments, including through the funding of capacity-building;
- economic diversification in response to the impact of climate change;
- activities to enhance knowledge sharing.”

The approach presented in the “Focus document” should be examined and compared to the listing of activities presented in Decision 5/CP.7 (para. 8), which are:

- “starting to implement adaptation activities promptly where sufficient information is available to warrant such activities, inter alia, in the areas of water resources management, land management, agriculture, health, infrastructure development, fragile ecosystems, including mountainous ecosystems, and integrated coastal zone management;
- improving the monitoring of diseases and vectors affected by climate change, and related forecasting and early-warning systems, and in this context improving disease control and prevention;
- supporting capacity building, including institutional capacity, for preventive measures, planning, preparedness and management of disasters relating to climate change, including contingency planning, in particular, for droughts and floods in areas prone to extreme weather events;
- strengthening existing and, where needed, establishing national and regional centres and information networks for rapid response to extreme weather events, utilizing information technology as much as possible.”

Clearly, these lists, together with listings proposed in recent submissions by Parties to the AWG-LCA, suggest a wide spectrum of types of adaptation needs that are perceived as legitimate by Parties and, hence, eligible for funding. These range from potentially one-off, small-scale and clearly delimited “knowledge-sharing activities” to potentially long-term, large-scale and system-wide “economic diversification” strategies in communities, covering all possible economic sectors. Furthermore, they range from various capacity-building activities and desk studies, to implementation of adaptation projects such as construction of some infrastructure development. Translating the complexity of adaptation on the ground into legal text that can be used as a basis for allocating funds is bound to be challenging, in particular as it could involve extremely diverse activities that would have to be evaluated and measured using very different criteria and indicators. A key question for a Copenhagen Agreed Outcome is whether and how this diversity is to be maintained, or whether there is a need for prioritisation. In addition, which types of adaptation activities can and should be undertaken under the UNFCCC, and which under other institutional frameworks and supported by other financial flows?

A more analytical approach to pinpointing adaptation can be found in the academic literature, which is rich in definitions and typologies. An example that captures much of the essence of the phenomenon of adaptation in developing countries is the *adaptation-development continuum* (McGray *et al.* 2007) referred to in chapter 2 (see figure 2.1). This continuum is empirically rather than theoretically derived and emphasises that the different types of activity are not discrete but continuous and overlapping in nature. Furthermore, it illustrates the close relationship between adaptation and development, which has been strongly emphasised by the academic community (see e.g. Sperling *et al.* 2003; Burton *et al.* 2002; Adger *et al.* 2003; Klein *et al.* 2007; Kelly and Adger 2000; O’Brien *et al.* 2004). Many Parties stress the interlinkages – some to the extent that adaptation is seen as an “inherent” part of development planning. McGray *et al.* (2007) agree that it can be difficult to distinguish adaptation from “good” development on the ground and suggest that the difference lies more in the definition of the problem and the setting of priorities than in the implementation of solutions.

An important question for adaptation finance is whether financing should also be made available for vulnerability-focused adaptation (see figure 2.1). Much adaptation funding to date, especially from UNFCCC funds, has tended to benefit or favour impact-focused adaptation, partly as a consequence of the requirement to calculate additionality (see chapter 4). For further negotiations on a new climate agreement, however, the AWG-LCA Chair has opened the door for more vulnerability-focused adaptation by suggesting that Parties “seek a common understanding of how to maximize the adaptation potential of *vulnerable* developing countries by combining actions to promote *climate-resilient development*, in the context of national strategies for sustainable development, with additional actions to respond to the *impacts* of climate change” (UNFCCC 2009a: 6, emphasis added). The Chair also picked up ideas expressed by the adaptation-development continuum and elsewhere (see e.g. Klein and Persson 2008) on how these different parts of the continuum could be matched by funding, suggesting that “[w]hereas the latter are considered to merit additional

financial and technological support beyond official development assistance, the former may be addressed through increased official development assistance, thus maximizing the financing provided to vulnerable developing countries”.

Several questions arise here: is vulnerability-focused adaptation an equally (or more) legitimate financing need under a UNFCCC regime – and/or beyond this regime? What would be the comparative effectiveness of financing vulnerability-focused rather than impact-focused adaptation? Do these different types of adaptation call for different delivery mechanisms, different levels of financing and different absorptive capacity requirements? These questions are revisited in chapter 4. In sum, the understanding of adaptation will have direct implications for what kind of activities are financed and from which sources.

3.3 Assessing and prioritising adaptation needs

Even in the absence of a precise definition in the UNFCCC context of what constitutes adaptation, significant progress has nevertheless been made by developing countries on identifying, assessing and prioritising current and immediate adaptation needs. From the viewpoint of many developing countries, sufficient information and knowledge on adaptation needs are now in place to move forward on designing an institutional structure where identified needs are recognised and matched with finance.

Adaptation needs identified in National Adaptation Programmes of Action

The *National Adaptation Programmes of Action* (NAPAs) are key sources for understanding the adaptation needs of the developing world on the ground. The NAPA process was created as a primary mechanism for the fulfilment of article 4.9 of Convention – to facilitate rapid communication of the urgent needs of the Least Developed Countries (LDCs). In May 2009, eight years after the creation of the process, 40 of the 49 LDCs have fulfilled the guidelines and submitted their NAPAs to the UNFCCC. The process of developing a NAPA includes building multidisciplinary NAPA teams, translating national development goals into NAPA goals, synthesising available vulnerability assessments, conducting rapid and participatory integrated vulnerability assessments, identifying urgent adaptation needs, developing project profiles for urgent priority activities, defining coordination of implementation of specific activities, planning outreach on the NAPA and promoting synergies, and submitting the NAPA to the Global Environment Facility (GEF), the UNFCCC and potential donors. The 39 NAPAs submitted, excluding Yemen’s document which was submitted in April 2009, propose a total of 440 “urgent and immediate” adaptation projects, 392 of which have estimated budgets. The total cost of the projects is over USD 1,500 million (UNFCCC 2009c). To date, only one project, in Bhutan, is being implemented. The funding provided for NAPAs has thus far been limited to the preparation rather than the implementation of projects.

Collectively, the NAPAs give a good indication of the kind of adaptation activities that are seen by LDCs as a high priority in the short term. Additional insights can be gained from other UNFCCC national reporting mechanisms, such as the National Communications (NCs) and the Technology Needs Assessments, and from regional workshops. Table 3.1 reproduces the categorisation of the 440 NAPA projects by sector carried out by the UNFCCC (UNFCCC 2009c). Looking at *sectors*, the highest level of adaptation needs measured in terms of the number of urgent projects is found in *Agriculture, forestry and fisheries*, followed by *Water resources and Coastal zones and marine resources* (see table 3.1). The pattern of NAPA project form entries suggests that a common approach to adaptation action in agriculture is improved crop and livestock management, normally through agroecology, and the second most common category, water resources, can be characterised as improved water management for drinking and irrigation – with equal emphasis on modern irrigation and rainwater harvesting. The *Capacity building, Infrastructure and Terrestrial ecosystems* sectors had the fewest projects. This trend was identified as early as 2006, when the GEF Council considered early findings from NAPAs (GEF/C.28/18).

This suggests that adaptation needs are particularly urgent and major in the *primary sectors of the economy*, which are often dominant in LDC economies. Therefore, becoming less dependent on primary sectors may reduce economic vulnerability to climate change, although such relationships are complex and difficult to generalise. The relatively low number of proposed projects in the *Capacity building* sector could mean that such activities are seen as less urgent than projects in the more concrete sectors, but also that few are expected to have cross-sectoral benefits. Regarding *Terrestrial ecosystems*, the relatively low number of projects here suggests that activities with direct socio-economic adaptation benefits are prioritised, at least in the short term.

Looking at the *estimated costs* of the identified projects in each sector, the pattern is similar with higher total costs for the top three sectors. An exception is the category Cross-sectoral projects, where one particularly high-cost project was categorised – a USD 700 million project to increase food security through multi-purpose water development in the Genale-Dawa Basin in Ethiopia. The average cost of NAPA projects is about USD 2 million (UNFCCC 2009c: 31). The average cost is generally higher in the prioritised primary sectors and the infrastructure sector, most likely because the projects proposed in these sectors are generally technology-oriented.

Regarding *geographical regions*, a considerable majority of the 49 countries eligible to formulate NAPAs are in Africa (33), followed by Asia (10), Oceania (5) and Latin America (1). Only LDCs are eligible to produce NAPAs, a classification agreed by the United Nations Economic and Social Council (E/2004/33) based on per capita income and indicators of nutrition, health, education and literacy, as well as economic vulnerability – through an index that considers instability of agricultural production, exports of goods and services, economic importance of non-traditional activities, merchandise export concentration, the handicap of economic smallness and the percentage of the population displaced by natural disasters. The UNFCCC analysis of

Table 3.1: Adaptation activities as expressed in the NAPAs to meet the urgent and immediate needs of the least developed countries, by sector

Sector and typical priority activities	Total cost estimate of 39 NAPAs	Total number of projects	Average cost per project
Agriculture, forestry and fisheries – resistant crop and livestock varieties, diversification of activities for rural communities, advancing food security (seed and food banks), community-based forest projects, improving veterinary services, promoting agricultural techniques and irrigation methods to fight salinity	USD 359 million	142	USD 2.5 million
Water resources – protect water infrastructure, improve management of surface water, construct storage facilities, water-harvesting, improve watershed management and monitoring, raise community awareness	USD 140 million	57	USD 2.5 million
Coastal zones and marine resources – integrated coastal zone management, construct and upgrade coastal defences and causeways, mangrove planting	USD 97 million	35	USD 2.8 million
Infrastructure – development of communications and telecommunications infrastructure, road protection, energy	USD 43 million	15	USD 2.9 million
Human health – development of health infrastructures, increase immunisation, measures to combat spread of malaria, training and awareness-raising for medical personnel	USD 40 million	31	USD 1.3 million
Extreme events – installation of early-warning systems, measures for flood prevention (e.g. flood dykes) and coping with droughts, community disaster preparedness and response capacity	USD 35 million	23	USD 1.5 million
Terrestrial ecosystems	USD 24 million	21	USD 1.1 million
Capacity building – exploring options for insurance, awareness-raising and information dissemination	USD 11 million	14	USD 0.8 million
Cross-sectoral	USD 748 million	26	-

Source: Adapted from UNFCCC (2009a)

NAPA projects did not examine the type of subregions (e.g. mountainous, low-lying flood plains, megacities, etc.) identified as in need of adaptation activities.

As for the *types of adaptation activity* identified in the NAPAs, table 3.1 suggests that developing countries need a mix of “hard” technological measures and “soft” measures for reducing vulnerability and building adaptive capacity. For example, promoting agricultural techniques and irrigation methods to fight salinity is proposed along with economic diversification of vulnerable rural communities and research on crop varieties. The NAPAs suggest that the LDCs are not biased towards either end of the adaptation continuum (see figure 2.1) but instead recognise the need for comprehensive strategies. Health projects under NAPAs, for example, would normally be considered vulnerability reduction as they are preventive strategies, such as immunisation. These have become more of a priority, however, as disease patterns change due to climate change, making them both preventive and response strategies.

In addition to identifying concrete and sector-specific adaptation measures, developing countries have also articulated their needs and priorities with regard to *cross-sectoral measures* for facilitating adaptation and building adaptive capacity. A review of these cross-sectoral projects suggests that they involve and benefit more than one sector, but this does not mean that their integration into national developments and national priorities is a higher (or a lower) priority than other NAPA priorities.

Finally, regarding the *quality and relevance of NAPAs* as adaptation needs assessments informing a Copenhagen Agreed Outcome and its provisions for financial support, the NAPA process is a vulnerability-based bottom-up approach that should build on the local strategies, indigenous knowledge and coping capacities of local institutions and communities. However, they are often not able to incorporate future climate projections and scenarios as these are often not available at the scale needed and the local capacity does not exist to interpret the data (UNFCCC 2009c). NAPAs are limited to a response to immediate needs and to building local response and adaptive capacities to current exposure and sensibility to climate variability, but are informed by projections of regional climate change and assumptions of future climate-related risk at the national level. Because the activities are aimed at reducing current adaptation deficits, they are not responsive to the relationships between global temperature changes and risk over the course of the next 100 years, for example, those changes expected to occur to global systems and processes when the global temperature increases by more than 2 degrees Celsius. Above certain thresholds, changes may interact and cause an intensified magnitude, distribution and timing of impacts; a trend that is difficult to adapt to without the necessary systematic observation and models – activities covered under the article 5 of the Convention.

Databases of adaptation initiatives

In addition to the short-term forward planning contained in NAPAs, there are several databases with information on completed or ongoing adaptation projects and initiatives

at the local and national levels which can inform an assessment of adaptation needs.³ The UNFCCC secretariat, for example, hosts an adaptation practices interface which is a gateway to information on adaptation practices worldwide – the *Local Coping Strategies Database*.⁴ It provides a summary of adaptation practices by a large range of organisations, agencies and businesses. Around 100 cases are categorised under: (a) type of hazard, for example, drought, erratic rainfall or sea-level rise; (b) type of impact, such as decreased food security, soil erosion and urban heat islands; (c) strategy, for example, alternative cultivation methods, land redistribution or improved housing design; and (d) adaptation action, such as sea dykes, seed selection and wells. The pattern of entries suggests that the most common types of adaptation action so far have been seed selection and storage, improved cropping systems and disaster preparedness. The picture provided by this database concurs very much with the NAPA summary above, that is, that thus far adaptation actions have been most common in the agriculture sector, although they may just have been more extensively reported. Mainly “hard” or technology-oriented activities have been reported so far, rather than, for example, economic diversification and other aspects related to vulnerability.

Another database was developed by the World Resources Institute for its 2007 report *Weathering the Storm: Framing for Adaptation and Development* (McGray *et al.* 2007).⁵ It includes 135 cases and categorises them by region and country, scale, type of climate impact adapted to, objective, degree of targeting and the adaptation strategies employed. This database gives a somewhat different picture of adaptation needs than those of the UNFCCC database and the NAPAs. Like the latter, most cases are from sub-Saharan Africa, followed by South and Central Asia and Latin America, but in addition it shows that the vast majority of projects have been undertaken in rural rather than urban settlements, and that almost half the projects were undertaken at *community scale* rather than subnational, national or multinational. This raises the question of, assuming that needs are most commonly defined and responded to at the community scale, whether the national government is the best placed actor to channel or manage adaptation finance for its communities.

Regarding sectors, the dominant sector here too is Agriculture, followed by Disaster risk management, Water resources, Coastal resources, Human health and Energy. Compared with the NAPAs, these results suggest that disaster risk management may be a more important sector on which to focus future adaptation finance, although such work is also in many ways cross-sectoral and not easily categorised. According to Oxfam International (2009), climate-related disasters may increase the number of people affected by disasters by up to 50 per cent by 2015 – from 250 million to 375 million per year. This raises the issue of whether disaster-related adaptation finance is

3 The official database on the NAPAs hosted by the UNFCCC provides a record of the completed NAPA documents as well as a database of local activities categorised according to climate impact and region. See http://unfccc.int/cooperation_support/least_developed_countries_portal/napa_project_database/items/4583.php

4 See <http://maindb.unfccc.int/public/adaptation/>

5 See <http://projects.wri.org/adaptation-database>

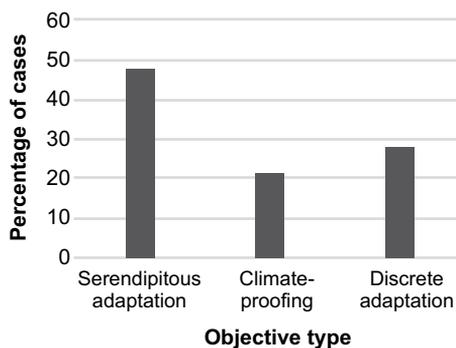


Figure 3.1: Characterisation of adaptation projects according to objective
Source: McGray et al. (2007)

best delivered through UNFCCC channels or existing channels already operational in this field.

Finally, the database also categorises the type of adaptation strategies employed in the 135 projects (multiple strategies can be employed in a single project). Here also there is some divergence from the UNFCCC database and the NAPAs. Most of the 12 strategies belong to “soft” types of adaptation, and the two “harder” and more technology-oriented ones (“promoting technology change” and “improving infrastructure”) are in fifth and tenth place, respectively. The four most common strategies are found to be “changing natural resource practices”, “building institutions”, “launching planning processes” and “raising awareness”. Another interesting result is that the creators of the database have also classified whether the 135 projects had adaptation as an explicit objective from the start, or this was an *ex post* interpretation and the original purpose was to obtain development benefits (i.e. the degree of targeting). Of the three categories developed – “serendipitous” adaptation, climate-proofing of development efforts and discrete adaptation – the former was found to be the most common (see figure 3.1). Again, this highlights the interconnectedness between adaptation and development discussed in chapter 2 and above.

In sum, these two databases are not sufficiently reliable in terms of input data to provide representative projections of adaptation needs to inform a Copenhagen Agreed Outcome. However, the data they contain could be used more systematically in an analysis of appropriate financing arrangements.

State-of-the-art methodologies for vulnerability assessment

In addition to the adaptation needs identified in NAPAs and other databases, the level of vulnerability of developing countries serves as another type of relevant information input for understanding the adaptation needs of a new climate agreement, as well as the reliability of methodologies for vulnerability assessment.

The Fourth Assessment Report of the Intergovernmental Panel on Climate Change (IPCC AR4) reviewed evidence on the vulnerability of sectors and regions to potential changes in climate (IPCC 2007). The report does not categorise which regions are most vulnerable, but notes with a high degree of confidence that:

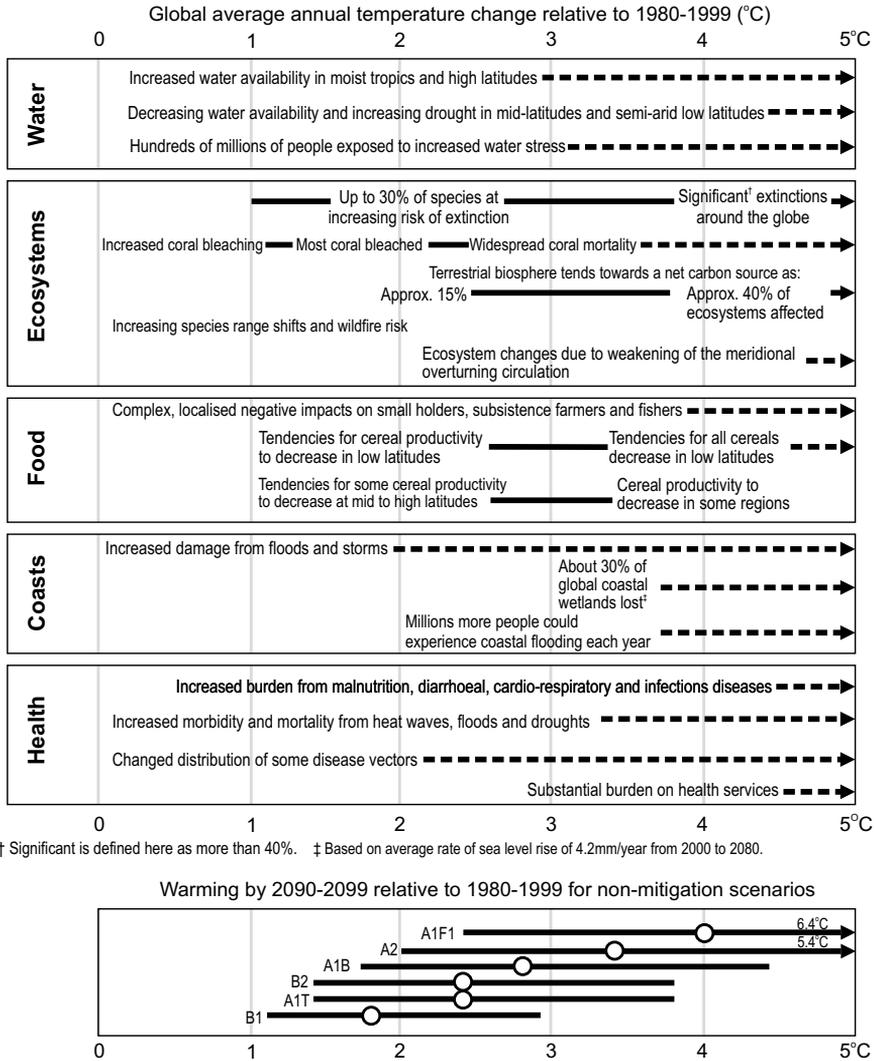
Many millions more people are projected to be flooded every year due to sea-level rise by the 2080s. Those densely populated and low-lying areas where adaptive capacity is relatively low, and which already face other challenges such as tropical storms or local coastal subsidence, are especially at risk. The numbers affected will be largest in the mega-deltas of Asia and Africa while small islands are especially vulnerable

Some of the key findings from this report on the climate vulnerability of and impact on sectors are reproduced in figure 3.2 below.

One problem with the assessments of the IPCC is that they assess vulnerability at the regional level, but this is often difficult to interpret at the national level. In the case of Africa, for example, the IPCC AR4 (chapter 9) projected certain trends, such as compromised agricultural production and food security and increased water stress, but also noted the limitations of current models (Boko *et al.* 2007). The limitations of available models and data constrain current vulnerability assessment, particularly for downscaling projections in the short and medium term. Furthermore, the approach used by the IPCC reviews the sensitivity of these systems as well as options for adaptation based on scenario analysis and stabilisation targets. Future action on adaptation, however, requires a more thorough assessment of the ability of societies to respond to change, which must include not only exposure to hazard but also adaptive capacity.

Other United Nation programmes, particularly UNDP, have made much progress in developing vulnerability assessment methodologies at the local and sub-national levels using participatory methods to prioritise activities with methodologies similar to those of the NAPA. The World Bank and the Organisation for Economic Co-operation and Development (OECD) have also developed disaggregated methodologies to standardise the integration of risk management strategies into their development work: the World Bank's *Guidelines for Assessing the Sources of Risk and Vulnerability* and the OECD's *Strategic Environmental Assessment on Disaster Risk Reduction* (OECD 2008).

To date, there is no global tool for vulnerability assessment to compare or rank countries. Many countries assert themselves as the most vulnerable, and these assertions are neither right nor wrong – they just depend on the factors included and the assumptions made in vulnerability and risk assessments. We discuss the issue of vulnerability ranking and indexing in chapter 4. It should be noted here, however, that regional centres, an issue around which there seems to be convergence in the AWG-LCA, could serve to downscale assessments and provide policymakers with more specialised data to enhance climate change adaptation policy integration by developing specific indices that are adequate to the geophysical and socio-economic conditions of the region.



† Significant is defined here as more than 40%. ‡ Based on average rate of sea level rise of 4.2mm/year from 2000 to 2080.

Figure 3.2: Projected climate impact by sector of temperature increases
 Source: IPCC (2007)

Summary

In sum, there is considerable information available on adaptation needs in developing countries. Although it could be improved in terms of reliability, informative trends and patterns could probably be identified from a more systematic analysis of existing information. On short-term needs, the NAPAs are a reliable source for a Copenhagen Agreed Outcome since they articulate needs identified by national governments, supposedly based on consultation with stakeholders. Their weakness from the viewpoint of a Copenhagen Agreed Outcome, however, is exactly the short-term perspective they were intended to have. The databases, on the other hand, are not particularly reliable but have the advantage of providing information about actual experiences with adaptation rather than projects planned for the future, and they also take a more bottom-up view of adaptation. The substantive findings from this brief review are summarised at the end of the chapter.

3.4 Costing adaptation needs

While one part of the challenge is to understand the character of adaptation needs in order to target available resources appropriately, the other part is to understand the level of financing required globally, per region or country and per sector. Estimated costs of adaptation are important not only for operational planning to accommodate adaptation needs, but also for identifying appropriate sources of adaptation finance, which is discussed in the chapter 6. Several costing exercises in relation to adaptation have been launched in recent years. The first round focused on providing global estimates and was based on rather crude, top-down methodologies, but a new generation of studies, all of which are ongoing, attempt to use bottom-up techniques and to provide more disaggregated results.

Top-down, global estimates

A number of organisations have recently published aggregate estimates of the financial needs for adaptation. The UNFCCC secretariat estimated the additional investment and financial flows needed worldwide to be USD 60–182 billion in 2030 (UNFCCC 2007a), some USD 28–67 billion of which would be needed in developing countries. The largest uncertainty in these estimates is in the cost of adapting infrastructure, which may require anything between USD 8–130 billion in 2030, one-third of which would be for developing countries. The UNFCCC secretariat also estimated that an additional USD 52–62 billion would be needed for agriculture, water, health, ecosystem protection and coastal-zone protection, most of which would be used in developing countries (UNFCCC 2007a).

Others have arrived at similar estimates. The World Bank (2006) concluded that the incremental costs of adapting to the projected impacts of climate change in developing countries are likely to be in the order of USD 9–41 billion per year, while Oxfam International (2007) estimated this number to be over USD 50 billion per year. UNDP made the most pessimistic estimate to date in suggesting that by 2015 the financing

requirements for adaptation in developing countries could amount to USD 86–109 billion per year (Watkins 2007).

While these different estimates all highlight the high level of uncertainty, there is a consensus that global adaptation costs will total tens of billions of US dollars per year in developing countries. A recent review by the OECD of the estimates mentioned above found that there is very little quantified information on the costs of adaptation in developing countries, and most studies are constrained to a few sectors within countries (mostly coastal zones and, to a lesser extent water, agriculture and health) (Agrawala and Fankhauser 2008). In addition, these studies assume relatively crude relationships and make strong assumptions, such as perfect foresight and high levels of autonomous adaptation. Almost no cross-sector studies have examined cumulative effects within countries, and only a handful of studies have investigated the wider macroeconomic consequences of impacts or adaptation. Moreover, most of the literature only considers adaptation to average changes in temperature or sea-level rise. Little attention has been paid to more abrupt changes in mean conditions or to changes in the frequency and magnitude of extreme events.

Agrawala and Fankhauser (2008) argue that there has been “a premature and very rapid convergence around initial estimates that are quite sensitive to the assumptions made”. For example, all subsequent studies adopted the World Bank’s assumptions that 40 per cent of official development assistance (ODA), 10 per cent of foreign direct investment (FDI) and 2–10 per cent of gross domestic investment are climate-sensitive, and that the cost of climate-proofing the exposed investments is 10–20 per cent of the financial exposure in each of these cases. According to Agrawala and Fankhauser, this “consensus” on global adaptation costs, even in order of magnitude terms, may be premature. In addition, in most cases the estimates do not have a direct attribution to specific adaptation activities, and nor are the benefits of adaptation investment articulated. There are also issues of double counting between sectors, and scaling up to global levels from a very limited – and often very local – evidence base. At the same time, many sectors and adaptations have not been included in the estimates.

Bottom-up cost assessments

Since the emergence of the global adaptation cost estimates above, there have been new efforts to provide more detailed and bottom-up estimates of the cost of adaptation. This section presents an overview of some of these ongoing bottom-up costing exercises: the NAPAs, a World Bank study, capacity-building initiatives by the UNDP and UNFCCC secretariats, and a UNEP/McKinsey study.

The NAPAs, which are discussed in detail in section 3.3 of this chapter, are so far the most extensive effort to generate an assessment of the cost of adaptation needs in developing countries. As is described above, the cumulative cost of prioritised projects responding to urgent and immediate adaptation needs is currently approximately USD 1,500 million for the 40 countries that have completed them. The divergence from the “tens of billions” of USD mentioned above can be explained by several factors. First, they cover only 40 developing countries. Second, they only respond to urgent and

immediate adaptation needs, and neither to the timescales that the global estimates consider nor those that would need to be considered in a long-term Copenhagen Agreed Outcome. Third, the cost refers only to prioritised projects in each country and not to the long-lists of possible projects.

One major ongoing study is the Economics of Adaptation to Climate Change Study conducted by the World Bank and funded by the United Kingdom, the Netherlands and Switzerland.⁶ The objective is “to help decision makers in developing countries better understand and assess the risks posed by climate change and to better cost, prioritise, sequence and integrate robust adaptation strategies into their development plans and budgets in a context of high uncertainty, competing needs and limited financial resources.” It will also inform the international community’s efforts in developing access to new and additional financial resources by developing a new global cost estimate. The study is being carried out using seven case study countries: Bangladesh, Bolivia, Ethiopia, Ghana, Mozambique, Samoa and Vietnam. Costs of adaptation will be assessed in a bottom-up fashion in these countries, and a parallel methodology will estimate a global cost based on these cases.

It is expected that results from this study will be available in late 2009, before COP 15, but that the final results may not be disseminated until 2010. Although we do not yet know the results, the methodology report indicates five ways in which it will be different from previous adaptation cost studies (World Bank 2009). First, it will have more detailed sectoral breakdowns, especially for the infrastructure sector. Second, uncertainty will be considered more explicitly in that climate projections based on different IPCC emission scenarios are used to identify more robust adaptation strategies. Third, rather than assuming a constant level of development, this study will consider a development-as-usual scenario, which will have the effect of changing the adaptation needs over time. Fourth, it will have a more economically efficient definition of adaptation, where successful adaptation means restoring a sector to its pre-climate change standard and not a state where benefits exceed costs plus residual damage. Finally, uniform costs of adaptation projects and programmes will not be assumed, but country- or region-specific cost data will be used. Furthermore, the aim is to assess the level of “economic regrets” generated by different adaptation strategies in which: (a) “no regrets” measures make social, economic and environmental sense even in the absence of climate change; (b) “low-regrets” measures are justified by climate change but have a relatively low marginal cost, such as changing infrastructure design prior to construction rather than retrofitting; and (c) “high-regrets” measures might be essential but are optimal in only a small number of climate scenarios.

For a Copenhagen Agreed Outcome, these future study results might provide a more reliable global cost estimate at an appropriate level of financing to be regulated under the UNFCCC, could inform methodologies for allocating resources between

⁶ See <http://web.worldbank.org/WBSITE/EXTERNAL/TOPICS/ENVIRONMENT/EXTCC/0,,contentMDK:21581098~pagePK:210058~piPK:210062~theSitePK:407864,00.html>

developing countries, and could shed more light on particularly cost-effective and robust adaptation strategies and the sectors that could be supported.

The UNDP Environment and Energy Group has developed an initiative to strengthen the national capacity of developing countries to assess climate change policy options across different sectors and economic activities.⁷ The 13 participating developing countries will each identify up to three key sectors and hold national inter-ministerial workshops on national climate actions and the BAP. The aim is to provide a better understanding and create awareness among the national ministries of the need for efforts to tackle climate change and to facilitate more accurate estimates of the financing needed to implement actions. A range of publications have been published by UNDP to brief countries on the key issues for the negotiations, relating to the institutional frameworks for mainstreaming climate change in domestic policy and to international negotiations on financial flows. UNDP has stated that it will develop a methodology for the assessment of national financial needs.

The UNFCCC secretariat is running a seemingly very similar project: the National Economic, Environment and Development Study (NEEDS) for Climate Change Project.⁸ It responds to the SBI 28 mandate for the secretariat to provide, on request, information to non-Annex I Parties on the assessment of financing needs to implement mitigation and adaptation measures. The objectives are to support the countries in: (a) selecting key sectors for mitigation and adaptation measures based on the priorities identified in national communications and national development plans; (b) assessing financing needs in those sectors and identifying financial and regulatory instruments to support them; and (c) raising awareness among domestic government agencies on the policy actions required to mobilise finance and investment. It is unclear when the project will conclude and disseminate its results.

Finally, a project by UNEP and McKinsey was approved for funding by the GEF-administered UNFCCC SCCF in January 2009 to undertake an “economic analysis of adaptation options”.⁹ The aim of this project is to develop a decision-making framework and detailed methodology for cost-benefit analysis of adaptation measures to support prioritisation and the financing of adaptation to climate change hazard risks. The project will deliver a taxonomy of adaptation measures for a representative sub-set of climate change impacts and a bottom-up assessment of cost and financing requirements for a representative and replicable sub-set of adaptation measures. Expected outputs are an improved ability to identify appropriate financing approaches to meet investment needs and a “solutions paper” outlining options for resource mobilisation. The project document does not provide specific methodologies, but it states that it “will synthesize the factual and analytical information developed from the individual case studies and necessary to support decisions in public and private spending, at the national / regional

7 See <http://www.undp.org/climatechange/capacity-development.html>

8 See http://unfccc.int/cooperation_and_support/financial_mechanism/items/2807.php

9 See the GEF project approval at [http://www.gefweb.org/uploadedFiles/Focal_Areas/Climate_Change_\(PDF_DOC\)/SCCF1/Global%2001-22-09_Economic_Analysis_Adapt_Options_SCCF.pdf](http://www.gefweb.org/uploadedFiles/Focal_Areas/Climate_Change_(PDF_DOC)/SCCF1/Global%2001-22-09_Economic_Analysis_Adapt_Options_SCCF.pdf).

level, towards activities that reduce vulnerability to climate change³⁷. The cost estimates will further contribute to global adaptation efforts such as the World Bank's effort to determine global adaptation funding needs. The project document notes that some results will be presented at COP 15 but that the project completion date is December 2010. The results of this study could be different from those of the World Bank because of the emphasis on measures rather than scenarios, which can be useful to envisage another way of understanding cost, although this approach is not likely to represent a breakthrough in understanding the cost of adaptation.

In sum, these and other initiatives to elaborate first-generation global adaptation cost estimates may lead to important results in reducing the uncertainty around the global cost over a given timeframe, improving national-level analysis of adaptation costs in developing countries, and cost-benefit and cost-effectiveness analysis techniques for comparing adaptation options. However, it is unlikely that they will deliver reliable and consolidated results before COP 15. It is currently impossible to say whether they are likely to arrive at higher or lower global cost estimates, or whether it will be possible to generalise the results from country case studies.

3.5 Planning for adaptation

The above review of existing information available on the character and magnitude of adaptation needs serves as a background to a discussion of the design options for the stages of the financing chain. It illustrates how results from existing needs assessment can be used to inform a Copenhagen Agreed Outcome. However, the objective is also to learn lessons from past adaptation planning, in order to discuss the future role of adaptation planning both in general and under the UNFCCC. Below, we discuss whether there is a need for further or improved adaptation planning at the national level. We then propose key issues to be considered when the future of adaptation planning is discussed and designed.

A need for further and improved adaptation planning?

The need for further or improved adaptation planning at the national level is a philosophical, political and practical question. From a philosophical viewpoint, one can ask to what extent effective forward planning in a world of uncertainty is feasible, and whether an ad hoc approach that does not embrace a rationalistic and synoptic ideal is more appropriate. However, from a political viewpoint, and more specifically with international equity and fairness in mind, it appears that some minimum level of adaptation planning is required to create stability around the distribution of scarce funds. A more open political question, on the other hand, is the extent to which minimum or maximum national adaptation planning should be centrally steered, harmonised and coordinated. Should a Copenhagen Agreed Outcome allow for bottom-up, autonomous planning initiatives or should it provide strict top-down guidelines? Finally, how could coordinated adaptation planning be organised in practice? More importantly, what are the current gaps in NAPAs and is there a need for a new and different type of instrument?

Below, we assume that some minimal level of standardised national adaptation planning is required in a Copenhagen Agreed Outcome and discuss some practical ways of sharing information relevant to such planning. We propose some key considerations to be taken into account in the process of planning, such as involvement of the beneficiaries and the choice of modalities. The section ends with a discussion of the relative merits of building on the NAPAs or introducing new National Adaptation Plans (NAPs).

Knowledge- and information-sharing

Knowledge-sharing is likely to be important to a strong Copenhagen outcome. Databases such as those reviewed above can assist countries in obtaining data to inform their decisions and strategies.¹⁰ In the ongoing process under the AWG-LCA, information-sharing mechanisms have taken different dimensions in country positions. Developing countries, for example, are calling for the establishment and maintenance of database management systems and repositories of adaptation-related information through an international adaptation centre. In contrast, Japan has proposed the creation of an information-sharing mechanism that will match adaptation financing needs identified by countries with the sources of finance under different channels. Several Parties consider the Nairobi Work Programme (NWP) (see box 3.1) to have been a useful mechanism for information exchange and call for its continuation in some form under a Copenhagen Agreed Outcome. Several Parties also propose that regional centres should be established under a new agreement to act as more regionalised centres of excellence and hubs of information exchange.

Regardless of the specific design of knowledge- and information-sharing mechanisms under a new agreement, it can be said that databases must be developed with a clear objective – otherwise they run the risk of becoming “information dumps”. Data and knowledge on needs continue to grow, and if an information clearing house is created, it must be done with a clear purpose and in a way that allows stakeholders to update their inputs. So far, the experience of the NAPAs demonstrates that creating databases to make a country’s needs accessible to others has not influenced the level of finance made available in any significant or visible way.

Beneficiaries of, and participation in, adaptation planning

For any form of future adaptation planning, national governments need to consider who needs to adapt and ensure that planning responds to changing needs in beneficiary groups. Over the course of adaptation discussions in the AWG-LCA, many Parties have stressed the importance of focusing on the most vulnerable groups and applying the principle of public participation (see chapter 2). Vulnerable and marginalised groups at the sub-national level must receive special attention when identifying and determining national needs. A country-led approach to adaptation – a principle that is commonly agreed by all Parties – requires that countries be given the freedom to determine their needs without outside entities determining who should be the beneficiaries of

¹⁰ Other easy-access knowledge-sharing tools for adaptation include the UNDP’s Adaptation Learning Mechanism (see <http://www.adaptationlearning.net/>) and the Stockholm Environment Institute’s weADAPT web platform (see <http://www.weadapt.org/>).

Box 3.1: The Nairobi Work Programme on impacts, vulnerability and adaptation

The breadth in scope of adaptation is illustrated by the nine work areas of the UNFCCC Nairobi Work Programme on impacts, vulnerability and adaptation to climate change, and by the large number of organisations that contribute to these areas. The nine work areas are:

- methods and tools;
- data and observations;
- climate modelling, scenarios and downscaling;
- climate-related risks and extreme events;
- socio-economic information;
- adaptation planning and practices;
- research;
- technologies for adaptation;
- economic diversification.

Established by Decision 2/CP.11, the Nairobi Work Programme is a five-year programme (2005–2010) implemented by Parties, intergovernmental and non-governmental organisations, the private sector, communities and other stakeholders. Its objective is to assist all Parties, in particular developing countries, including the least developed countries and small island developing states to: (i) improve their understanding and assessment of impacts, vulnerability and adaptation to climate change; and (ii) make informed decisions on practical adaptation actions and measures to respond to climate change on a sound scientific, technical and socio-economic basis, taking into account current and future climate change and variability. Implementation actions are catalysed by ensuring that products and deliverables target stakeholders at all levels and across all sectors. To date the Nairobi Work Programme has engaged over 130 organisations, institutions, private sector bodies and communities.

The Nairobi Work Programme was an initiative of the Subsidiary Body for Scientific and Technological Advice (SBSTA), so it does not cover adaptation finance. This reduces the political weight of the programme, but at the same time allows activities under the nine work areas explicitly to take into account the broader development context in which adaptation takes place. Insights from the Nairobi Work Programme inform negotiations on the implementation of Decision 1/CP.10, which means that discussions on adaptation finance are influenced indirectly by the activities under the Nairobi Work Programme. For example, several of the ideas now being discussed on insurance have originated from a consortium of academics and representatives of non-governmental organisations and the private sector, all of whom are engaged in the programme.

adaptation. Fortunately, approaches to national planning have become increasingly inclusive, and although the need to continue to enhance these processes remains, there are many experiences from which to draw, including the planning process as part of the NAPAs, the Poverty Reduction Strategy Papers (PRSP) prepared in some countries through a participatory process involving domestic stakeholders, and processes to develop national disaster risk platforms under the Hyogo Framework.

A country-led approach should translate into an approach that is responsive to strategic needs; as articulated over different geographical scales, timescales, and by different sectors and regions. Thus, it must include diverse stakeholders. For example, while planning is normally considered a matter of public policy, it is important that it also includes the private sector (see chapter 7). A Copenhagen Agreed Outcome could set a baseline for important processes that must be part of a national approach to adaptation without detracting from a country-led approach, for example by setting general guidelines for the development of national plans in terms of methodologies and the inclusion of stakeholders. Some of these guidelines could be replicated from the NAPA guidelines set at COP 7.

Planning for different modalities

In addition to different types of adaptation activities (see the typologies described in section 3.2), the identification of adaptation activities based on needs assessments can be “packaged” in different ways. The key modalities discussed in the negotiations and elsewhere are: “stand-alone” projects, programmes, mainstreaming and creating enabling environments. They all have strengths and weaknesses. The choice between these modalities during a – more or less – consolidated national planning process has implications for which financing channels and modalities are appropriate and feasible, as is discussed in chapter 4.

Projects

A project-based approach through stand-alone activities is often considered to be the default modality in the adaptation finance context, using a one-off grant disbursed to a one-off, delimited project that addresses a delimited climate impact. However, recently it has most often been proposed as one element of action on adaptation rather than the only approach to adaptation. In Bonn in March 2009, South Africa elaborated on the role of the stand-alone process as a means of addressing impacts, putting these activities at one end of the adaptation continuum referred to above in this chapter (see also figure 2.1). Stand-alone activities would include infrastructure investments and/or technical assistance projects that directly tackle the impacts of climate but may not be necessary as part of normal development activities. Examples put forward by South Africa were water desalination where the impacts of climate change have reduced water availability, or the protection of biodiversity hotspots threatened by climate change.

Some of the strengths of this approach are that stand-alone projects can facilitate accountability and transparency, by being delimited and more easily monitored. Some of the weaknesses compared to more comprehensive and strategic programmes (see

below) are the higher transaction costs of administering many small projects, their limited trickle-down and multiplier effects, and possibly that they are less connected with national development plans and less country-driven – unless the project proponent is a national or local government actor.

Programmes

The difference between projects and programmes is unclear at times. Taking the NAPA projects as a reference, some of the activities planned under NAPA could be considered programmes as they are composed of a series of activities over a period of time. A distinction between projects and programmes could be made in terms of the:

- level of abstraction or “strategicness” – a programme may be defined in terms of nominally more activities and/or less detail on concrete activities reflecting a strategic rather than an operational focus (e.g. a water resources investment programme vs. retrofitting an individual facility);
- timeframe – programmes as more long-term than projects;
- geographical scope and/or administrative scale – programmes covering larger areas, and hence being led by higher tiers of the government administration;
- connectivity with other development plans and investment initiatives at the national or regional levels – possibly higher in a comprehensive and higher-status programme;
- degree of national government “ownership” – a programme may be driven by a national government whereas a project could be driven by an independent project proponent.

It is commonly understood that programmes translate into different projects downstream, and this, for example, is reflected in the NAPA guidance from Decision 28/CP.7. NAPAs themselves are defined as programmes with a wider scope and objective that are to be completed by priority activities, which are contained in the different projects. However, these programmes have a limited timeframe – urgent and immediate – as supposed to the more comprehensive approach sought under Decision 1/CP.13.

Planning adaptation activities as programmes rather than projects may have some strengths. Lower transaction cost in the long term – although initial design would require a more thorough study than a project-based approach, once the programme were established this could be used to design and readjust projects as necessary over the course of the programme implementation, and greater multiplier effects could be achieved – as well as greater strategic oversight offered to the programme owner. If the programme through its size and budget has higher status than a small project, it may also be more easily integrated into national development planning. On the other hand, a weakness is that programmes are less easy to monitor in terms of deliverables and effects, as objectives tend to be less precise and measurable and the scope broader.

This will make it harder to hold national governments accountable as programme-owners. Furthermore, choosing a programmatic format still requires substantive work downstream in terms of developing concrete activities.

It is clear that a Copenhagen Agreed Outcome on adaptation finance needs to lay out the differences between projects and programmes more clearly, and there is a need to go beyond the technical and administrative jargon. This is particularly important if the two modalities are to compete over the same pot of money. In order to clarify and streamline terminology, experiences from the world of ODA (e.g. the Paris Declaration), the GEF and the emerging definitions of the Adaptation Fund Board could be reviewed.

Mainstreaming adaptation in national development planning

Mainstreaming adaptation into development requires integration of long-term climate change concerns into short- and medium-term development policy decisions in vulnerable developing countries (Persson and Klein 2009), and it is a frequently referred to modality in the AWG-LCA discussions.

Adaptation can be mainstreamed into virtually all aspects of national planning, such as in national budgets, PRSPs, sector strategies, national sustainable development strategies, and disaster risk reduction plans. In particular, there have been efforts to mainstream adaptation into PRSPs, but so far with rather disappointing results (Kramer 2007). In Mozambique, for example, a study found that the country has developed a supportive legislative environment, and government and donors have reached a high awareness of climate risks but mainstreaming has been constrained by limited individual, organisational, networking and financial capacity (Sietz *et al.* 2008). In addition, many ODA donor agencies have developed processes for mainstreaming with regard to their contribution to a country's development plan and project portfolio. The Development Assistance Committee (DAC) of the OECD recently issued guidance on this topic (OECD 2009).

The strength of mainstreaming is that it allows a more integrated approach and that it could avoid inconsistent policies (i.e. building adaptive capacity through some policy instruments but actively or indirectly reducing it with other instruments). It can also raise awareness about adaptation at higher, more strategic decision-making levels. However, this can occur at the risk of adaptation becoming almost "invisible" and difficult to monitor, something that developing countries have identified as a problem in monitoring levels of assistance for adaptation as opposed to assistance for other development activities. Another challenge in taking responsibility for adaptation mainstreaming to a different level of government (e.g. a ministry of finance) is that while it has a more central location in the decision-making structure, this level may be less informed and capable of identifying climate change risk than a section of government educated in climate change (e.g. ministries of environment). Consequently, in discussions in the AWG-LCA, some developing countries have expressed resistance to a mainstreaming rather than a programmatic or project-based approach. However,

a mainstreaming approach can of course be complementary to and combined with a project-based approach.

If mainstreaming is to be recognised as a modality for adaptation planning and subsequent financial support under a Copenhagen Agreed Outcome, it is clear that it must be defined in more detail. In particular, monitoring and accountability mechanisms as they relate to mainstreaming approaches need to be clarified. It is in the interest of both national governments and Annex I contributors – and, most of all, the ultimate beneficiaries of adaptation – that mainstreaming translates into something more than just an exercise on paper.

Creating enabling environments

“Creating enabling environments” is a new approach that has emerged since the Accra talks in 2008. It is a rather new term and there seem to be unclear interpretations of what it means in the context of a Copenhagen Agreed Outcome. The Alliance of Small Island States (AOSIS) has stated that:

The creation of enabling environments, including through fiscal measures, regulatory policies, legislative changes, national capacity-building and environmental impact assessments must be twinned with actual implementation of adaptation activities on the ground. Policies in and of themselves will not resolve practical adaptation needs.

The EU, for example, stated at COP 14 in Poznan that:

Governments will have a critical role to play in both adjusting their public spending to take account of climate risks and in providing the tools, climate information and enabling environments to help their citizens and private sector factor in climate risks, attract investments and optimise use of resources.

The Focus document from Bonn of March 2009 states that there was convergence that enabling environments for adaptation should be incentivised through climate-resilient development and economic diversification; regulatory policies, legislative changes, national capacity-building, removal of barriers and other supportive approaches; knowledge-sharing; and enhancing institutional arrangements and regional cooperation. Based on this interpretation, it could be proposed that creating enabling environments is a matter of planning so that:

- governments provide capacity-building so that stakeholders can adapt themselves;
- governments remove barriers to adaptation, such as regulations on the use of new crops or certain building regulations or zoning;
- governments ensure that the private sector identifies business opportunities in adaptation; and/or

- governments provide incentives and subsidies to encourage certain behaviours in a target group, for example, the use of insurance among farmers.

These stipulations, however, should be carefully framed to avoid anything that could translate into any form of conditionality to adaptation finance. In Bonn, a delegate from Uganda said that if to have an “enabled environment for adaptation” was a requisite for adaptation finance, then it was not clear why developing countries would require assistance for adaptation if environments were already “enabled for adaptation”. While the issue of an enabling environment can be argued from different angles, the remarks from this delegate show that this matter needs to be handled carefully to avoid more tensions as negotiations evolve, but also to ensure that the views of Parties on how to enable environments for adaptation are incorporated into a Copenhagen Agreed Outcome.

For now, we note that creating enabling environments seems to be a “common sense approach” to broadly based adaptation in a society, by ensuring that barriers to adaptation are systematically removed and cost-efficient adaptation is sought. However, they would need to be better defined conceptually and practically in order to compete as a modality with other more established concepts for adaptation planning.

Summary

In sum, Parties seem to converge on the need for more comprehensive action than just stand-alone projects and no Party has expressed opposition to or doubt about the need for a multi-level approach to the design and operation of adaptation strategies at a national level, as long as this remains within a country-led approach. The challenge is to make sure that the different modalities or approaches are defined with sufficient clarity and differentiated from each other. Furthermore, while it could be tricky to provide support for all modalities within one financial flow, it would also require much more thinking should they be funded under separate windows.

Timeframe

A discussion on a timeframe for activities, expected benefits and benchmarks for adaptation finance has been lacking over much of the course of the AWG-LCA. While on the mitigation side there have been specific dates discussed in the context of the shared vision, this shared vision has not translated into a timeframe for adaptation. The question remains what levels of adaptation and funding will be required, and by when? On the mitigation side, there is an increasingly coherent picture of what changes are needed by 2020 and 2050, although these years were chosen arbitrarily. Possibly, the financial community could be better prepared for adaptation if there was a similar timeline for adaptation needs – at the national level in countries and aggregated at the global level. In addition, a long-term target for adaptation may also facilitate determining the full cost of adaptation. Some actions may not appear to be adaptation or cannot be attributed to climate change in the short term, but using a target considering current science on expected effects by 2050, for example, may make identifying impacts and a strategy to build resilience and adaptation capacity easier.

An obvious trade-off here is that while adaptation planning and the agreement of a long-lasting Copenhagen Agreed Outcome would benefit from long-term targets, by providing for stability and predictability of financial flows, adaptation is much more uncertain than mitigation and there will always be revised climate projections as well as new knowledge on adaptation options. The question is whether a balance can be struck in some way. In view of article 3.3 of the Convention, a precautionary approach would call for a start to implementing adaptation action now, even if there is scientific uncertainty on specific climate change impacts. Citing UNFCCC (2007), the African Group said in Bonn in March 2009 that by 2030, the amount needed for adaptation will be in the range of USD 28–67 billion per year, on the assumption that developed countries set and meet ambitious mitigation targets.

Parties now seem to agree that, at the very least, it is now relevant to consider more long-term adaptation needs in order to complement the short-term needs already mapped out in the NAPAs. The advantages and disadvantages of a harmonised set of dates in a Copenhagen Agreed Outcome should be considered. A long-term vision on adaptation based on current mitigation action, perhaps to be discussed in the context of a shared vision informed by existing science and/or in view of article 4.7 of the Convention, would help draw the difference between current climate variability and future climate change, thus providing a much clearer set of goals that can be turned into programmes to be developed now. This, however, would be challenging because scientific knowledge will change constantly, demanding frequent adjustment to adaptation needs in the light of changes in scenarios in the short-, medium- and long-term.

Continuing with NAPAs or starting with NAPs?

Considering the factors and options influencing future adaptation planning, where does this leave NAPAs under a Copenhagen Agreed Outcome? Should a new planning tool, such as NAPs, be developed to replace NAPAs?

Developing country Parties have been keen to emphasise that NAPAs represent the best effort to date and that there is already a commitment to support their full implementation. Indeed, in view of the limited scientific information available, the NAPA methodology remains valid. NAPAs represent an important effort by the Least Developed Countries and the process of moving towards a new methodology should not entail any setback from funding identified priorities. The Least Developed Countries Expert Group (LEG) reported to the Subsidiary Body for Implementation (SBI) in Poznan in 2008 on the current status of NAPA implementation (FCCC/SBI/2008/14). It identified a set of concrete actions that would enable further and faster implementation of NAPAs as well as ensuring that lessons are learned for the future. More broadly, the NAPA process has helped the international community to understand the challenges of adaptation. The World Bank noted during a LEG stocktaking meeting on the preparation and implementation of NAPAs in September 2007 that the NAPA process helps to stimulate increased international support for adaptation needs at different levels, national and sectoral development plans and to address the local impact of climate change (e.g. changes in sea level rise, extreme weather events, rainfall patterns, etc.);

[it] aids in mainstreaming interventions in development programs so that development investments will have a better chance to achieve desired goals; [and it] informs the CAS [Country Assistance Strategy] and priority setting process in the World Bank for up-scaling efforts to address climate variability and change (World Bank 2007).

In a country-driven spirit, a NAPA-like process can continue to be the driver of the adaptation process at the national level for the identification of activities that fall close to the impact end of the adaptation spectrum while also informing the formulation of the those activities that can be identified at the vulnerability reduction end. Enhanced NAPA-like teams at the national level working in national platforms similar to those designed under the Hyogo Framework could facilitate the creation and interpretation of such an adaptation spectrum.

With that in mind, and in view of the goal of the BAP, a more comprehensive process to enable the full, effective and sustained implementation of the Convention on adaptation requires supporting a country-driven approach to adaptation beyond “urgent and immediate” needs to build adaptive capacity and resilience. A potential approach to formulating NAPs could draw on the existing processes used to develop UNFCCC-agreed guidelines to formulate legal documents for submission to an agreed entity for adaptation funding. A NAP approach could use more comprehensive vulnerability assessments and be prepared to incorporate new science as it becomes available, thereby more effectively assessing adaptation needs. This approach, however, does not resolve the challenge of determining funding priorities, particularly as the results of a NAP might produce even more funding needs than an “urgent and immediate” NAPA approach.

A Copenhagen Agreed Outcome could thus consider a two-pronged approach to adaptation planning: first, an end date for ensuring financial support for the implementation of NAPA projects could be set; and, second, cycles of new and more long-term planning processes could be established. A range of options are available here on the extent to which such a process should be internationally standardised and what legal and/or advisory role it should play vis-à-vis UNFCCC decisions on the allocation of finance.

3.6 Summary and conclusions

This chapter began by noting the lack of an agreed definition of adaptation in the UNFCCC context, as well as the lack of a commonly accepted and uniform typology of adaptation activities. While this could be expected given the complex nature of adaptation, and while strict and narrow definitions could present obstacles rather than opportunities for a new financing regime, problems may also arise as more detailed arrangements and criteria are determined. The chapter used the adaptation-development continuum shown in figure 2.1, which facilitates differentiation between impact-focused and vulnerability-focused adaptation, to characterise adaptation needs and explain the implications in terms of appropriate finance delivery channels.

Existing needs assessments provide a fairly coherent picture that it is in the primary *sectors* of the developing country economy where needs are greatest: agriculture, water resources, and coastal resources and management. Again, this highlights the high interdependency between adaptation and development. If dependency on these sectors can be reduced, adaptation needs will change. A less clear picture is currently provided on how important disaster risk management will be in overall adaptation work, but this is highly dependent on the categorisation scheme used. There is no coherent picture of the *types* of adaptation that have been implemented so far. Some sources suggest that adaptation has so far been technology-oriented, whereas others highlight “softer” approaches involving planning processes and capacity-building efforts. Among the identified NAPA projects, there is a mix of impact- and vulnerability-focused adaptation activities. Altogether, existing needs assessments as well as completed adaptation projects could be analysed much more systematically to inform a Copenhagen Agreed Outcome of where adaptation finance is needed and for what.

The global *costs* of adaptation are as yet highly uncertain, although in the order of tens of billions of US dollars per year. A number of more disaggregated, bottom-up studies at the national level are now ongoing in developing countries, but these will deliver results after COP 15.

Finally, it was found that the NAPAs offer the main source of experience regarding *adaptation planning processes*. While there are some weaknesses in the current NAPAs, such as their short-sightedness, although it was their explicit purpose to prioritise “urgent and immediate” needs, and the limited availability of relevant climate projections, the NAPAs represent a commitment under the existing UNFCCC regime to not only prepare but also implement projects.

The observations made in this chapter, based on existing studies and analyses, raise several *questions for a Copenhagen Agreed Outcome*. These questions refer to the delivery, governance and generation of adaptation finance, and are discussed in the chapters below.

- *Delivery*: Should *allocation among sectors* within countries be predefined, in light of the differential needs identified so far? A predefined approach has the advantage of adding transparency and setting a clear target for finance and could be set to ensure equity in distribution among eligible Parties. On the other hand, having predetermined allocations that do not necessarily match needs can lead to eligible Parties having to adapt their needs to funds (Moehner and Klein 2007). Furthermore, experience with predefined formulas in the GEF Resource Allocation Framework suggests that setting allocation frameworks is difficult, with the risk of creating inequitable distributions of funds and increasing political tensions, as witnessed during the discussions of the Review of the Financial Mechanism in Poznan.
- *Delivery*: Should *vulnerability- and impact-focused adaptation* actions be treated equally and be eligible for the same kind of financing mechanisms, or are

they of a different character? Current methodologies and decisions are designed to identify urgent and immediate needs. A vulnerability-based approach would help to avoid impacts, to the extent that it is possible, and reduce their cost, but may have higher upfront cost. An impact-based approach would be based on current methodologies and would help isolate climate change-related impacts from issues arising from other global problems (i.e. HIV/AIDS and biodiversity loss) but as the impacts of climate change become stronger, separating these impacts would be more difficult. Also, an impact-based approach would wait until an impact risk became evident, which could lead to the system losing its resilience over time and the dimension and cost of impacts increasing over time.

- *Governance* – How could different *modalities* for adaptation planning and subsequent applications for funding be combined under a Copenhagen Agreed Outcome? Are more discriminating definitions required? Should they be financed under separate windows? What are the implications in terms of devolution, that is, de facto national discretion to choose the modalities seen as appropriate?
- *Governance* – How should future *adaptation planning processes* be regulated under a Copenhagen Agreed Outcome? In particular, how standardised does regulation need to be, and would this compromise the extent to which it is country-led? What legal or advisory status should they be awarded? How can a continued process of implementing identified NAPA projects be combined with establishing possible new processes for more long-term adaptation planning?
- *Generation*: Given that the high level of uncertainty around the overall cost of adaptation over time is unlikely to be significantly reduced in the short term, how can and should a Copenhagen agreement deal with this uncertainty? Should an indicative target be set for the *level of financing* to be provided? Should a mechanism for updating the target based on continuous assessment be established?

4 DELIVERY OF ADAPTATION FINANCE

KEY MESSAGES

- Adaptation finance can be delivered on the ground through public (domestic, multilateral or bilateral), private sector or civil society delivery channels.
- Public sector delivery plays a non-negotiable key role in adaptation finance, as adaptation is in many cases a public good and various forms of public intervention are needed to create an enabling environment for adaptation undertaken by other actors and for facilitating non-public kinds of financial flows.
- In addition to public sector delivery, there are clear roles for civil society and private sector delivery, but these are not as reliable and there is as yet little experience of them.
- Domestic public resources for adaptation already seem to be made available in developing countries on a limited but growing scale. While it is important to climate-proof the often large amounts of public expenditure on climate-sensitive sectors such as agriculture to ensure consistency with specifically targeted adaptation expenditure, adding adaptation as a priority to national budgets would also mean fewer resources for other legitimate development objectives.
- Delivery of adaptation finance from United Nations Framework Convention on Climate Change (UNFCCC) and Global Environment Facility (GEF) funds as well as from official development assistance (ODA) funds has primarily focused on adaptation assessment, planning and capacity-building, although the yet to become operational Kyoto Protocol Adaptation Fund should focus more on implementation of concrete adaptation projects (Stage III activities).
- Regarding UNFCCC fund delivery, access for developing countries has so far been prohibitively complicated and this needs to be addressed under a Copenhagen Agreed Outcome. This entails not only clear rules for direct access, but also a clear and stable framework on how eligibility and prioritisation based on countries' vulnerability is determined. Other criteria such as coherence with national development plans, cost-effectiveness and appropriateness also need to be internally prioritised.
- Some common challenges for both UNFCCC- and ODA-based delivery are the lack of appropriate markers, monitoring systems and indicators for adaptation, which prevent evaluation of not only whether needs are met but also the volume of funding provided, and how mainstreaming could become operationalised as a modality in a context where mutual accountability is seen as important by Parties.
- It is difficult to separate the roles of UNFCCC delivery and ODA delivery based only on the vulnerability/impact continuum. Instead, from a perspective of pure comparative advantage in delivery rather than equity in terms of who should and how funds should be generated (see chapters

6 and 8), their combination should optimise their respective strengths in meeting identified adaptation needs and conforming with agreed principles.

- The issue of additionality in relation to ODA levels should be addressed at the stage of generation (chapter 6) and not delivery. Once resources are mobilised through the various channels, they should, however, be disbursed in an integrative fashion. Delivering on adaptation, regardless of whether a vulnerability- or a more impact-focused approach is adopted, will be more efficient and effective through the pooling of available resources for development and adaptation, as well as the strengthening of existing development processes and mechanisms.

4.1 Introduction

Based on the identification of adaptation needs, as well as related planning processes, we now turn to the issue of how those needs can be delivered through various arrangements. The delivery stage is here conceived as consisting of (in the inverse order applied in this report):

- how projects and programmes address the needs on the ground, including the effectiveness, efficiency and equity with which they do so;
- how projects and programmes can be designed to address needs in appropriate ways, through the choice of, inter alia, administrative level, modality and delivery agent; and
- how national governments and/or bodies under the UNFCCC can prioritise among projects and programmes so that needs are appropriately addressed.

This chapter addresses these issues by focusing primarily on understanding the current and potential roles of different delivery agents – the public sector, including the domestic public sector, UNFCCC funds and ODA; the voluntary sector; and the private sector – and how these can inform the design of financing arrangements. It also focuses on the criteria for prioritising the projects and programmes funded under the UNFCCC and possibly elsewhere – an issue that has already been discussed in the negotiations.

4.2 Public sector delivery

Developing countries have emphasised during the Ad-Hoc Working Group on Long-term Cooperative Action (AWG-LCA) sessions that the public sector is expected to be the main agent for delivering finance to address adaptation needs. Public funds for adaptation are important because the benefits generated by adaptation actions often have the characteristics of *public goods*. For example, the benefits of coastal protection

will typically be enjoyed by all the residents of the community at risk. Similarly, improved impact projections and vulnerability assessments take the form of public knowledge products.

While the private sector is expected to address some adaptation needs in sectors with privately owned assets, the private sector will only provide investment for an economic rate of return. Below that rate, public expenditure remains essential. Public resources will also be needed to create the necessary *enabling environment* by implementing policies or regulations to encourage the private sector, civil society and individuals to undertake adaptation activities.

Adaptation-relevant public sector resources are currently delivered through three channels: (a) domestic national, sectoral and local budgets; (b) international climate-specific funds created under the UNFCCC; and (c) bilateral and multilateral official development assistance. The question arises: which of the three is the most appropriate in addressing the adaptation needs of developing countries? As is shown in chapter 3, there is no single approach to addressing adaptation needs. Activities span the whole adaptation-development continuum from a focus on impacts to a focus on vulnerability (McGray *et al.* 2007). In line with this continuum, it has been suggested that traditional development funding, provided through domestic budgets and ODA, focuses on reducing *vulnerability* and enhancing adaptive capacity, whereas new climate-specific funding is used to prevent or reduce climate change *impacts* from occurring. Yet, as chapter 2 demonstrates, the role of ODA in supporting adaptation is highly contested. Many developing countries stress that compared to delivery through ODA, delivery under the Convention promotes higher country ownership, imposes less conditionality, allows for direct access and ensures an equitable distribution of resources.

This section addresses these issues by discussing current delivery of public resources through the above-mentioned channels. Second, it compares those channels to identify the most appropriate delivery channel for addressing specific adaptation needs. It concludes with a discussion of how delivery of public resources could be designed post-2012.

Delivery of domestic public resources

National, subregional and local governments in developing countries deliver public resources primarily to enhance economic growth and reduce poverty. While many take current climate risks into account in their expenditures, adaptation to climate change is not the primary driver. According to the compilation and synthesis of 122 initial national communications from non-Annex I Parties, priorities include poverty alleviation, access to basic education and health care, control of population growth, rational use of energy and natural resources, promotion of ecologically sound technologies, and environmental protection (UNFCCC 2005).

Typical sectors and types of activities

Many developing countries have identified and are already undertaking a variety of activities to address adaptation needs in key vulnerable sectors, including agriculture,

water resources, coastal zones and marine ecosystems, forests and terrestrial ecosystems, human health, fisheries, human settlements, tourism, energy and biodiversity. Even though many adaptation activities are sector-specific, developing countries have noted that delivering on adaptation requires a cross-sectoral approach as uncoordinated sectoral responses can be ineffective or even counterproductive, since responses in one sector can increase the vulnerability of another sector or reduce the effectiveness of adaptation responses taken in the other sector. For example, measures to increase water availability through open water storage can lead to an increase in vector-borne disease (UNFCCC 2007b).

Even though many developed countries have reported on the sectoral and cross-sectoral adaptation activities they have undertaken, few countries provide information on the amount of domestic public funding delivered to adaptation. An exception is India, which delivered USD 14 billion in 2006–2007, 11 per cent of overall government expenditure, to address adaptation in the key climate-sensitive sectors of agriculture, water resources, health and sanitation, coastal zones, forests and disaster risk reduction.¹¹

Of the sectors vulnerable to climate change impacts, agriculture is the largest and most important in developing countries in terms of its share of GDP and employment. Even more important is the fact that the majority of the vulnerable groups and communities live in rural areas and depend on agriculture for their livelihood. In 2002, public expenditure on agriculture in 44 developing countries was USD 225.6 billion (Fan and Saurkar 2006). In comparison, the identified costs for addressing adaptation needs in the agriculture sector in 39 of the Least Developed Countries (LDCs) was USD 269.7 million (UNFCCC 2009a). Given that public resources spent on agriculture in general are three orders of magnitude higher than the estimated adaptation needs it is paramount to ensure that current domestic expenditure contributes to adaptation, for example, by mainstreaming adaptation considerations into sectoral and national planning.

Typical modalities used

According to the UNFCCC (UNFCCC 2005), many Parties are taking climate change into account in their current and future national planning in accordance with their own development priorities. The modalities for delivering adaptation finance vary from the national to the local level. At the national level, developing countries spend resources to create an enabling environment in which adaptation can take place, for example, through legislation such as national adaptation bills, policies such as spatial planning, and adaptation action plans or spending reviews such as budget allocations for adaptation (UNFCCC 2007b). At the sub-national level, that is, at the provincial, municipal, urban and rural community scales, the typical modality for delivering finance is specific adaptation *projects and programmes* in key vulnerable sectors. More information on the various modalities employed by developing countries to deliver domestic public resources is expected to be included in their second national communications.

11 See http://unfccc.int/files/meetings/dialogue/application/pdf/india_-_adaptation.pdf

Governance and institutional arrangements

Many developing countries have only recently set up institutional structures and arrangements to foster integration of adaptation considerations into national and sectoral development, including into the delivery of finance. At the national level, countries are either using existing institutions or have created committees for coordinating sustainable development and climate change and for implementing programmes. An inter-ministerial committee for climate change or a branch of an interministerial committee on environment is often chosen as the forum to discuss, and as the means to coordinate, climate change policies and activities with those of development. The committees are designed to institutionalise the exchange of information and coordination among the key agencies responsible for natural resource management and climate change (UNFCCC 2005).

Institutionally, most countries initially assigned a governmental body in charge of science, meteorology or the environment to be responsible for adaptation at the country level. While some countries still maintain such an institutional arrangement, others have recognised that adaptation is not only an environmental issue but affects every aspect of the economy and society. China, for example, has shifted overall responsibility from the Ministry of Science to a multi-ministerial coordination committee for climate change, which reports directly to the National Development and Reform Commission – an overarching government body in charge of overall economic planning and coordination of sectoral development. Bolivia has created a Ministry of Sustainable Development and Planning, which manages all programmes and projects that combine environmental and development concerns (UNFCCC 2005). To foster cross-sectoral linkages, India and the Maldives have established cross-sectoral national steering committees on climate change with representatives of key ministries, scientists and the private sector (UNFCCC 2007c).

Strengths and weaknesses

The greatest strength of delivering adaptation finance as part of domestic public resources is the potential to address nationally identified adaptation needs (country ownership) as well as consistency and alignment with identified national and sectoral development plans and priorities. However, institutional barriers and constraints remain for delivering adaptation finance effectively and efficiently, including insufficient coordination and cooperation on adaptation between government ministries and departments due to conflicting mandates, budgets and stakeholders; lack of supportive policies, standards and regulations; and existing legal or regulatory restrictions. Decision-making and planning horizons for delivering finance are often of a short-term nature, which make delivering on planning and implementing adaptation difficult. In addition to the institutional weaknesses, delivering finance for adaptation as part of delivering on more urgent development objectives threatens the gains made on economic growth and poverty reduction. According to Uruguay's submission to the UNFCCC on the draft AWG-LCA negotiation text: "finally, and most importantly, we want to convey that adaptation is not optional. To face this challenge, we have been advancing our own measures with our own funds – postponing other development priorities – but these resources are not, and definitively will not be, nearly enough."

While developing countries are delivering resources from domestic budgets to undertake adaptation activities, the Convention and the Bali Action Plan (BAP) foresee developed countries assisting developing countries in meeting the costs of adaptation by delivering additional public resources.

Delivery of public resources through international climate-specific funds created under the UNFCCC

Public resources for adaptation under the Convention are delivered through its financial mechanism, which is currently operated by the Global Environment Facility (GEF) and the Adaptation Fund Board (AFB). At its first session in 1995 the Conference of the Parties (COP) to the UNFCCC set out initial guidance for the delivery of financial support for adaptation from the GEF Trust Fund's climate change focal area. Parties agreed that adaptation should comprise short-, medium- and long-term strategies, and set up a three-stage approach to adaptation funding in developing countries. Stages 1 and 2 encompass planning, developing policy options and capacity-building for adaptation, while Stage 3 envisages measures to facilitate adequate adaptation (Decision 11/CP.1). In 2001 the COP requested that support be extended to a range of adaptation-related activities, which led the GEF to establish under its Trust Fund the Strategic Priority "Piloting an Operational Approach to Adaptation" (SPA) with an allocation of USD 50 million.

Three additional funds for adaptation, each with its own guidance, were established by the COP in 2001: the Least Developed Countries Fund (LDCF) and the Special Climate Change Fund (SCCF) under the UNFCCC, and the Adaptation Fund under the Kyoto Protocol. While the LDCF and the SCCF are operated by the GEF, the Adaptation Fund is operated by the AFB.

Typical beneficiaries

Financial resources have been delivered to support *adaptation assessment and planning*, including for:

- enabling activities, including support for vulnerability and adaptation assessments as part of national communications (all non-Annex I Parties, i.e. developing countries and countries with economies in transition, are eligible);
- the preparation of NAPAs (the 49 LDCs are eligible);
- capacity-building to assess and plan for adaptation (some developing countries are eligible).

However, in terms of delivering resources to support adaptation implementation, only 76 countries – about half of the non-Annex I Parties – have received support for adaptation projects that are being implemented on a national, regional or global scale. An overview of the 60 approved adaptation projects so far, including grant size, geographic distribution and scale at which they are being implemented, is provided in table 4.1.

Table 4.1: Overview of approved adaptation projects in terms of size, region and scale

Fund	SPA	LDCF	SCCF	Total
Total projects	22	23	15	60
Total grants (in USD million)	50	65.2	67.5	182.7
Average project grant (in USD million)	2.3	2.8	4.5	3.0
Projects by region				
Africa	6	16	6	28
Asia	5	3	3	11
Latin America	4	-	4	8
Europe	2	-	-	2
SIDS	3	4	1	8
Projects by scale				
Local	1	-	-	1
National	13	23	12	48
Regional	7	-	2	9
Global	1	-	1	2

**Source: GEF 2008a, GEF 2008b and the GEF website,
http://www.gefweb.org/interior_right.aspx?id=194**

The majority of the USD 183 million has so far been delivered at the national level. Only nine of the 60 projects have a regional focus. Examples include adaptation activities in transboundary systems, for example, water basins, coastlines or mountainous ecosystems. The two projects at the global level relate to knowledge-sharing. Only one of the 60 projects specifically delivers support to the community level, where the greatest need has been identified (see chapter 3). While other projects also seek to benefit communities, this is dependent on the national level involving the relevant stakeholders during project implementation.

With regard to the Adaptation Fund, its strategic priorities, policies and guidelines foresee that special attention should be given to the particular needs of the most vulnerable communities and that funding will be available for projects and programmes at the national, regional and community levels (Decision 1/CMP.4, annex IV). Operationalisation of these provisions is yet to happen as activities under adaptation will be supported from mid-2009 at the earliest.

Typical sectors and types of adaptation activities

For Stage I and II adaptation funding, the GEF has delivered resources from its Trust Fund to support vulnerability and adaptation assessments in the context of National Communications and capacity-building. Sample projects include capacity-building for

Stage II Adaptation to Climate Change in Central America, Mexico and Cuba and Mainstreaming Adaptation to Climate Change in the Caribbean.

Resources for Stage III, that is, actual adaptation measures, have been delivered through the SPA, the LDCF, and the SCCF and are expected to be delivered through the Adaptation Fund from mid-2009. In line with their terms of reference (Decision 5/CP.7), the funds deliver support to a wide range of adaptation activities and sectors. An overview of funded projects by sector is provided in table 4.2.

The SPA was created to support pilot or demonstration projects to show how adaptation planning and assessment can be practically translated into projects that will provide real benefits. The LDCF delivers resources to support the LDC work programme, which includes preparation and implementation of NAPAs to address the urgent and immediate adaptation needs of LDC Parties. The SCCF and the Adaptation Fund envisage support for:

- adaptation activities in the areas of water resources management, land management, agriculture, health, infrastructure development, fragile ecosystems, including mountainous ecosystems, and integrated coastal zone management;
- monitoring of diseases and vectors affected by climate change, related forecasting and early-warning systems, and improving disease control and prevention;
- capacity-building, including institutional capacity, for preventive measures, planning, preparedness and management of disasters relating to climate change; and
- National and regional centres and information networks for rapid response to extreme weather events.

An interpretation of the current projects and programmes submitted for funding to the LDCF and the SCCF suggests that there is a good match with the sectoral needs assessment as expressed in, for example, the NAPAs (see section 3.2). There is also an overwhelming bias towards impact-focused and risk-management projects, but the nature and scope of these activities vary widely. This may be because the methodologies used to determine NAPAs, as per Decision 28/CP.7, focus on urgent and impact-focused activities, and the GEF guidelines on demonstrating additionality tend to favour impact- rather than vulnerability-focused projects (see below).

Typical modalities used

Until now, the SPA, the LDCF and the SCCF have delivered all their resources using project-based modalities. In April 2008, the GEF Council agreed to gradually introduce programmatic approaches under the GEF Trust Fund, recognising that medium- to long-term programmes constitute more effective financing vehicles for supporting countries' sustainable development than traditional project-by-project funding provision. Several regional and multi-country sustainable development programmes have subsequently

Table 4.2: Approved adaptation projects, by sector

Fund Sector	SPA	LDCF	SCCF	Total
Agriculture/livestock/forestry	6	9	5	20
Water resources	4	3	4	11
Coastal zones	6	5	1	12
Cross-sectoral	6	4	4	14
Disaster risk reduction	–	2	1	3
Total	22	23	15	60

Source: GEF 2008a, GEF 2008b, the GEF website, http://www.gefweb.org/interior_right.aspx?id=194

been initiated that specifically target LDCs and Small Island Developing States (SIDS) and which could offer adaptation co-benefits. Programmes include the Pacific Alliance for Sustainability programme, the Strategic Investment Programme for Sustainable Land Management for sub-Saharan Africa and the West Africa Programme. In line with the strategic priorities, policies and guidelines of the Adaptation Fund, eligible countries can make use of both modalities when accessing resources.

Eligibility for and access to resources

The climate funds under the UNFCCC have different *eligibility rules*. Whereas the SPA and the GEF Trust Fund can be accessed by developing countries and countries with economies in transition, only developing countries are eligible for the SCCF. Eligibility is further restricted in the case of the Adaptation Fund, which can only be accessed by developing country Parties to the Kyoto Protocol that are particularly vulnerable to the adverse effects of climate change, and the LDCF, which delivers resources only to the LDCs.

Unlike domestic public resources, which address development and adaptation needs, the climate funds under the UNFCCC only fund agreed *full incremental costs* of adaptation activities. The remaining costs of funded activities associated with development are to be borne either by the recipient country or by other bilateral or multilateral donors. The climate funds have complicated access guidelines to ensure that public resources only cover the agreed full incremental costs. Countries must demonstrate that the proposed project generates global environmental benefits in order to access the SPA. A number of scenarios need to be outlined in order to determine the amount of GEF funding, including a baseline scenario which includes the activities that countries are undertaking as part of their ongoing development efforts, an alternative GEF scenario which includes activities that would generate global environmental benefits in the absence of climate change and, finally, a second alternative GEF scenario that ensures the robustness of the global environmental benefits by improving the resilience of the systems concerned. The incremental costs associated with increasing resilience receive

funding from the SPA, while those associated with generating global environmental benefits are funded from other programmes under the GEF climate change focal area or from other focal areas (e.g. biodiversity and land degradation).

In contrast to the SPA's focus on global environmental benefits, the LDCF and SCCF are accessible to adaptation projects that focus on one of the core sectors of development, such as agriculture, water, health or infrastructure (GEF 2008a). Proposed projects need to outline the incremental costs of adaptation, which are defined by Decision 3/CP.11 as the costs imposed on vulnerable countries to meet their immediate adaptation needs, and are understood to be the additional costs imposed by climate change to make development climate-resilient (GEF 2006). Section 3.2 above comments on the lack of a precise definition of adaptation in the UNFCCC context. The GEF Council has created guidance for the operationalisation of this incremental cost approach through Decision GEF/C.24/12 (2004), which provides an example to explain how this approach works:

If a project rehabilitates tidal mangrove resources as a protection against sea-level rise and coastal erosion, it might be expected to contribute global benefits measured as improved habitat for biodiversity as well as the local benefits of coastal protection. In contrast, in certain small-island or dryland countries, rainfall patterns may change so that the same total quantity of precipitation falls, but it falls in fewer cloudburst events. In such cases, the country may request project support to improve rainwater harvesting, which would help provide water for human consumption, but have little or no impact delivering global benefits. While in the former example, incremental costs could be provided for the sake of the project's provision of global biodiversity benefits, in the latter case, funding could be provided to meet the additional costs imposed on the country by climate change in attempting to meet its sustainable development goals (Decision GEF/C.24/12).

Recognising that an *ex ante* calculation of the incremental cost of adaptation is complex, the GEF has developed a sliding scale for LDCF and SCCF funding which serves as a proxy for estimating the incremental costs. On this sliding scale, smaller projects receive proportionally more GEF funding than bigger projects since they are assumed to have a higher adaptation component (GEF 2006). The scale provides an indication of the possible maximum amount of GEF funding for any given project size, and its application is optional. Countries opting to request a higher proportion of adaptation funding than that foreseen under the sliding scale need to justify the costs in detail (GEF 2006).

Eligible countries that have outlined their need for adaptation funding cannot directly request funding from the GEF but instead have to submit their proposals through one of 10 GEF agencies¹² that assist in the development, implementation, and management

12 The 10 GEF agencies are the African Development Bank (AFDB), Asian Development Bank (ADB), European Bank for Reconstruction and Development (EBRD), Inter-American Development Bank (IDB), International Fund for Agricultural Development (IFAD), United Nations Development Programme (UNDP),

of GEF projects.¹³ Before approval, most projects have to undergo a two-step approval process: in a first step the project's idea is approved using a Project Identification Form (PIF) and in a second step the full project is approved after a Project Preparation Grant (PPG) has resulted in a full project proposal.

Many developing countries argue that the complexity of current funding arrangements and the reliance on GEF agencies constrains their access to resources (Decision 3/CP.12, UNFCCC 2007b). Of the 151 non-Annex I country Parties, only 76 have so far been able to access resources to implement concrete adaptation activities. As table 4.3 shows, among these the ability to access resources varies: only one country has been able to access resources for four projects, while the majority have accessed only one.

In line with its strategic priorities, policies and guidelines, the Adaptation Fund will provide funding on a full adaptation cost basis. However, the draft operational guidelines discussed at the fifth meeting of the AFB in Bonn in March 2009 do not provide any detail on how this will be applied in practice.

Regarding access procedures, the AFB envisages that short and efficient project development and approval cycles and expedited processing of eligible activities shall be developed (Decision 1/CMP.4, annex IV). In line with the draft operational guidelines, an eligible Party can choose between a multilateral implementing entity (MIE), such as UNDP, or a national implementing entity (NIE), such as a Ministry of Finance. Either the MIE or the NIE have to meet certain fiduciary standards and to be registered, accredited or recognised by the AFB before it can implement projects or programmes (AFB 2009). These procedures have yet to be implemented.

Monitoring and evaluation

The GEF has developed a results-based management (RBM) framework – a management strategy focusing on the performance and achievement of adaptation projects – for the LDCF and the SCCF (GEF 2008c). The RBM framework undertakes monitoring and reporting at three levels: the programme level, LDCF/SCCF adaptation programmes; funding areas, sectors/areas of intervention; and the project level. Indicators for monitoring performance include the share of projects that are implemented successfully with satisfactory outcomes and the levels of co-financing programmed.

An adaptation task force will develop an adaptation assessment tracking tool to provide generic and sector-specific indicators to measure the degree to which the supported adaptation projects have reduced vulnerability and enhanced capacity. For agriculture, for example, the following indicators will be used: yields or productivity sustained under climate change induced stress (tonnes/ha); access among farmers to relevant climate information or extension services (e.g. the number of people or

United Nations Environment Programme (UNEP), United Nations Food and Agriculture Organization (FAO), United Nations Industrial Development Organization (UNIDO) and the World Bank.

13 More details on governance and institutional arrangements for UNFCCC climate finance are provided in chapter 5.

Table 4.3: Overview of countries receiving financial support for one or more adaptation

Countries with four projects	Countries with three projects	Countries with two projects	Countries with one project
Bolivia	Mozambique, Samoa, Vanuatu	Bangladesh, Brazil, Cape Verde, Colombia, Ecuador, Fiji, Gambia, Guinea, Guyana, Kenya, Mauritania, Micronesia, Namibia, Niger, Papua New Guinea, Peru, Philippines, Rwanda, Solomon Islands, Tanzania, Tuvalu, Uruguay, Venezuela	Albania, Argentina, Armenia, Benin, Bhutan, Burkina Faso, Cambodia, China, Cook Islands, Djibouti, Dominica, DR Congo, Egypt, Eritrea, Ethiopia, Guatemala, Guinea-Bissau, Haiti, Hungary, India, Indonesia, Jamaica, Kazakhstan, Kiribati, Madagascar, Malawi, Malaysia, Mali, Mexico, Mongolia, Morocco, Nauru, Palau, Paraguay, Senegal, Sierra Leone, Sri Lanka, St. Lucia, St. Vincent and the Grenadines, Sudan, Suriname, Tajikistan, Timor Leste, Tonga, Tunisia, Vietnam, Yemen, Zambia, Zimbabwe
Latin America (1)	Africa (1) SIDS (2)	Africa (8) Asia (2)	Africa (17) Asia (13)
Total countries (1)	Total countries (3)	Latin America (7) SIDS (6) Total countries (23)	Latin America (4) SIDS (13) Europe (2) Total countries (49)

Source: GEF 2008a, GEF 2008b, the GEF website, http://www.gefweb.org/interior_right.aspx?id=194

communities covered); and mainstreaming of adaptation within agricultural policies and development plans (e.g. the number of documents mainstreamed) (GEF 2008c).

The strategic priorities, policies and guidelines of the Adaptation Fund require the AFB to pay particular attention to arrangements for monitoring and evaluating the impact assessment when assessing project and programme proposals, but how this consideration will be put into practice remains to be seen.

Strengths and weaknesses

According to the GEF, one of the main accomplishments of the GEF adaptation programme has been to deliver resources to test and demonstrate adaptation in practice (GEF 2009). However, this delivery has had high transaction costs, and developing countries have repeatedly stressed that the SPA, LDCF and SCCF are *difficult to access* given the dependence on GEF agencies and the complicated and lengthy guidelines and procedures. Other issues raised periodically with regard to access to GEF funding include: the effectiveness and efficiency of the system; transparency and predictability in project selection; and the overall length of the GEF project cycle (GEF Evaluation Office, 2006). In response to these concerns, the GEF has reformed its project cycle, introduced a new RBM framework and started to engage further with recipient

countries in consultations on their national priorities. However, it is too early to judge whether the reforms have improved delivery. As for the Adaptation Fund, it remains to be seen whether delivery of resources will be more effective and efficient than under the GEF-managed adaptation funds.

Delivery of public resources through bilateral and multilateral official development assistance

According to article 11, paragraph 5, of the Convention, developed country Parties may also provide, and developing country Parties may avail themselves of, financial resources related to the implementation of the Convention through bilateral, regional and other multilateral channels (see box 2.1). In 2007, ODA provided through bilateral and multilateral channels for all purposes totalled USD 103.7 billion.¹⁴ A rough analysis by the Organisation for Economic Co-operation and Development (OECD) of the categories of ODA-funded activities suggests that more than 60 per cent of ODA could be relevant to adaptive capacity and adaptation in a positive way (Levina 2007). In 2007 alone, that would be USD 62.2 billion, which dwarfs the USD 182.2 million so far delivered under the UNFCCC climate funds. At the same time, an analysis of ODA projects reported in the OECD Creditor Reporting System database suggests that in the period 2000–2006 only about USD 610 million was spent on activities classified as having adaptation benefits (Roberts *et al.* 2008). There is thus considerable uncertainty, not only about the relationship between ODA spending and adaptation, but also about the potential to scale up adaptation-relevant ODA.

To enhance the adaptation benefits of general ODA, the OECD Development Assistance Committee (DAC) has provided guidance to the development agencies on how to consider climate change in their operations and thus facilitate the mainstreaming of adaptation (OECD 2009). So far, the greater part of lending by Multilateral Development Banks is for infrastructure projects that are likely to be adversely affected by climate change. Only a small proportion of lending relevant to adaptation is used directly for adaptation projects, most of which have so far focused on analytical work, capacity-building and impact assessments.¹⁵

In addition to adaptation being mainstreamed into general ODA, recent years have seen the creation of ODA initiatives specifically dedicated to adaptation. The best resourced ODA effort in support of adaptation is the World Bank's Pilot Programme for Climate Resilience (PPCR), with USD 240 million (World Bank 2008b and c). The PPCR is part of the Climate Investment Funds (CIFs), which are managed by the World Bank and implemented jointly with the Regional Development Banks (the African Development Bank, the Asian Development Bank, the European Bank for Reconstruction and the Inter-American Development Bank).

Besides the PPCR, new bilateral initiatives focusing on adaptation include: the Cool Earth Partnership launched by Japan, which intends to deliver up to USD 1 billion

¹⁴ See http://www.oecd.org/topic/0,3373,en_2649_34447_1_1_1_1_37413,00.html

¹⁵ FCCC/SBI/2008/INF.4, paragraph 21.

in support of adaptation; the UNDP-Spain Millennium Development Goals (MDG) Achievement Fund, with up to USD 22 million; the German International Climate Initiative, with up to USD 60 million per year; and the European Commission's Global Climate Change Alliance (GCCA).¹⁶ None of these funds has started to disburse financial resources.

Typical beneficiaries

In terms of adaptation-specific ODA, no specific information on projects is yet available but all the initiatives underline that they will focus on the most vulnerable communities and countries, including LDCs and SIDS. In terms of general ODA, the ultimate beneficiaries are rarely reported, but only channels of delivery (the public sector, NGOs, public/private partnerships, etc.). However, many of the new adaptation-specific funding initiatives by donors and development banks have announced that they will support national government programmes, sometimes in the form of budget support. There is thus possibly a trend of delivering funding to national governments, as opposed to directly to local communities, the private sector or NGOs. At the same time, the OECD guidance on integration also foresees that much adaptation work will take place at the local level and hence provides advice on how donors can work at that level (OECD 2009).

Typical sectors and types of adaptation activities

There is as yet little systematic study of which sectors bilateral and multilateral donors have focused on. The PPCR will deliver financial resources for integrating climate resilience into development planning and the financing of recipient countries. Two types of activity will be supported over the next three to five years in recipient countries: first, technical assistance to enable developing countries to build on existing national work, including the National Communications and NAPAs, to integrate climate resilience into core development plans and financing; and, second, additional financial resources to help fund public and private sector investments identified in the climate resilient development plans (World Bank 2008b).

UNDP-Spain's MDG Achievement Fund will support activities that improve environmental management and service delivery at the local and national levels; activities that will increase access to new financing mechanisms; and efforts to enhance adaptive capacity. Germany's International Climate Initiative seeks to focus on the interface between biodiversity conservation and adaptation, for example, the conservation of large forests.¹⁷

The EU GCCA's proposed areas of intervention include supporting the development of adaptation action plans in vulnerable countries other than LDCs, supporting the implementation of adaptation action plans in LDCs and SIDS, financing pilot adaptation projects focusing on the water and agricultural sectors and on sustainable management

¹⁶ For an overview of bilateral and multilateral specific adaptation funding initiatives and their status, see <http://www.climatefundsupdate.org/listing>

¹⁷ See <http://www.erneuerbare-energien.de/inhalt/42000/>.

of natural resources, and supporting international collaborative research on the impacts of climate change.¹⁸

Much ODA-supported adaptation thus appears to have a cross-sectoral character. Our ongoing research, however, suggests that most of the around 70 “adaptation-labelled” projects self-identified by bilateral donors are focused on the water, agriculture and education/information sectors (Persson *et al.* forthcoming).

This research also suggests that in terms of the type of adaptation activities, a majority of self-reported adaptation projects are about knowledge-gathering, research studies and capacity-building, rather than concrete adaptation projects employing the various management techniques or technologies. By slotting these projects into the adaptation-development continuum, the World Resources Institute suggests that a majority of them fall in the middle two categories (see figure 2.1), that is, in between the vulnerability and impact “extremes”. However, as is noted above, these data are not reliable, given the lack of adaptation tracking systems within ODA as well as the vulnerability reduction benefits of ODA with primary purposes other than adaptation. Nonetheless, it is possible that ODA-funded adaptation is currently complementary in this respect to more impact-focused UNFCCC/GEF-funded adaptation (see above).

Typical modalities used

The PPCR will focus on budget support, sector-wide approaches and coordinated investment programmes across key sectors, and blend with national financing and/or existing international support mechanisms (World Bank 2008b). Other ODA adaptation funding initiatives, such as Japan’s Cool Earth partnership, have announced they will provide grants to national governments based on national programmes for adaptation. At the same time, our ongoing research on bilateral donors to the OECD DAC shows that at least nine of them have supported adaptation using the project modality.

Considering the goals of the 2005 Paris Declaration on Aid Effectiveness, a movement towards less project-based technical assistance and increased programme and/or budget support in ODA as a whole can be expected, which may also apply to adaptation-related ODA. The recent OECD guidance on integrating adaptation into development cooperation foresees that such integration can and should take place for all modalities and at all decision-making levels: national, sector and project (OECD 2009). In line with the Paris Declaration principles on ownership and alignment, it also emphasises that the developing country partners’ own institutions, systems and “intervention points” for such integration should be used.

Monitoring and evaluation

It appears that monitoring and evaluation of adaptation are still problematic in the field of adaptation-related ODA. No particular practices or lessons learned were reported in the OECD’s 2007 stock-taking report on donor practices (OECD 2007). Furthermore, the recent OECD guidance emphasises the need for follow-up of “adaptation actions”, but provides no concrete guidance on, or measures or metrics for, how to do so in practice. The underlying

18 See <http://ec.europa.eu/development/policies/9interventionareas/environment/climate/climate_en.cfm>.

problem is the lack of an agreed and sufficiently precise definition of adaptation, which has meant that adaptation actions are hard to include in ODA statistical reporting. Furthermore, due to the sector-specific and context-specific nature of adaptation, a set of generic indicators has not yet been developed. However, the OECD DAC secretariat is apparently exploring these issues.

Strengths and weaknesses

A key strength of ODA in terms of delivering adaptation in developing countries is its potential to provide significant resources. First, as is mentioned above, if the complete ODA budget were climate-proofed, it has been found that that up to 60 per cent of it could positively contribute to adaptation. This means that a significant level of “passive” adaptation finance could be mobilised. Second, the specific and “active” adaptation funding initiatives that have now been announced also involve significant resources, for example, the PPCR can make up to USD 50 million available to each partner country. Another strength is that as long as ODA promotes “good development” and general poverty and vulnerability reduction, the premises for adaptation improve. ODA could thus play an important role to the left-hand side of the WRI’s adaptation-development continuum (see figure 2.1). However, from an equity viewpoint, there are some important weaknesses in ODA as a delivery channel for adaptation finance. There is an issue over the sustainability of resources, since national ODA budgets are subject to domestic politics and economic conditions. Furthermore, a great part of ODA is not registered on a partner country’s government budget. The other main issue is that ODA follows an aid paradigm and not the polluter pays principle. This means that developing countries are concerned that conditionalities could be applied to adaptation finance, which they consider should take the form of restitution rather than charitable contributions. From the perspective of some developing countries, the Paris Declaration represents the aid paradigm and therefore reference to its principles is perceived as sensitive in the context of the UNFCCC and a Copenhagen Agreed Outcome.

Choosing between delivery channels: effectiveness and efficiency, vulnerability vs. impacts and governance

In the light of the above, a number of considerations need to be taken into account when choosing between the three delivery channels. It has been suggested that traditional development funding, provided through domestic budgets and ODA, focuses on reducing vulnerability and enhancing adaptive capacity, whereas new climate-specific funding is used to prevent or reduce the effects of climate change.

However, in reality such a distinction would be difficult to maintain. As is described in chapter 3, a survey of NAPA projects shows that they are spread along the adaptation continuum, focusing equally on vulnerability and impacts (UNFCCC 2009). During the discussions on future adaptation financing, developing countries highlighted the need for a comprehensive and action-oriented adaptation programme, which must provide financial support to adaptation action that reduces vulnerability, enhances adaptive capacity and builds resilience in developing countries to impacts that are already occurring, including the effects of the increasing numbers of extreme weather events,

and impacts that are expected to occur in the future. Developing countries are calling for support to be provided through the second delivery channel (UNFCCC funds) for the entire adaptation continuum. In addition to the more theoretical aspects, other more practical aspects have also been highlighted. For example, during the fifth session of the AWG-LCA, a representative from China underlined that addressing the question of where development ends and adaptation starts will not benefit anyone, except for international agencies and consultants, and that a pragmatic solution is needed.

In addition to considering the nature of the adaptation action to be financially supported, that is, matching needs (see chapter 3) with appropriate sources, a number of agreed principles and how well each of the delivery channels scores on them should also guide the choice. Based on submissions to the UNFCCC and on lessons learned from the development community, Mitchell *et al.* (2009) propose the following principles for effective delivery of adaptation finance and have analysed how well the various delivery channels are applying them (see table 4.4):

- *Country ownership*: eligible countries should be allowed to set their own adaptation priorities through dialogue with other in-country stakeholders, supported by finance delivery mechanisms that promote programmatic approaches to adaptation. Delivery mechanisms need to be flexible and tailored to specific needs and contexts to allow for different national circumstances.
- *Prioritising the most vulnerable*: adaptation delivery mechanisms must prioritise channelling resources effectively to those most in need. The integration of adaptation into PRSPs and into national adaptive social protection mechanisms are two options where pro-poor, state-led processes could potentially be effective in reaching the most vulnerable groups. In cases where states are unable to provide adaptation goods and services to such people, alternative delivery mechanisms, such as through NGOs, may be necessary.
- *Mutual accountability*: the governance of international adaptation delivery mechanisms must be transparent, equitable in representation and power, and possess clear lines of accountability.
- *Coherence and complementarity*: delivery mechanisms at the country level must not become unnecessarily fragmented and must not duplicate functions.

Table 4.4: Application of principles to delivery agents of public adaptation finance

Delivery agent:	Public sector in developing countries	International climate-specific funds and bilateral and multilateral ODA
Principle		
Country ownership	Coherent Capacity development often cited as being required before effective adaptation planning can happen	Coherent/incoherent Coherent where proposals are genuinely developed by partner country agencies. Problems of coherence arise when implementing agencies not sufficiently engaged
Prioritising the most vulnerable	Incoherent Evidence shows initial efforts ineffective at prioritising most vulnerable, although further tying adaptation to pro-poor policies is likely to help coherence	Incoherent Little evidence to suggest widespread and systematic targeting of most vulnerable, although some exceptions Much still to do to achieve coherence
Mutual accountability	Coherent Evidence suggests promise, although efforts needed to establish national monitoring and evaluation framework on adaptation/climate-resilient development	Incoherent Evidence of mistrust between multilateral agencies and some partner country governments in part due to lack of accountability of the agencies. Much still to do to achieve coherence
Coherence and complementarity	Coherent National plans can and should provide countries and donors, where applicable, with policies they can agree to support together.	Coherent/incoherent There are opportunities for partner country to apply for funding and thereby shows willingness to engage in planning for adaptation investments

Source: adapted from Mitchell et al. (2009)

As table 4.4 shows, delivery through domestic public budgets is more likely to comply with the principles but among the weaknesses of domestic public delivery are its low level of institutional capacity and its lack of financial resources. Delivery through bilateral and multilateral ODA and climate-specific funds under the Convention complies less well with the principles, but offers more financial resources and could be beneficial in terms of raising capacity.

Hence, a combination of the various funds to build on the strength and even out the weaknesses is desirable in order to enhance the effectiveness and efficiency of adaptation finance delivery. Some developing countries have already made suggestions on how such an integration of delivery agents could be achieved. Building on its multi-donor trust fund, which aims to harmonise support for its national climate change strategy, Bangladesh proposed under the AWG-LCA that national institutional arrangements be supported and that adaptation activities and financial resources preferably be

coordinated and managed by a single window/channel as appropriate in line with respective national plans and programmes (see chapter 5, section 5.3). South Africa has proposed the establishment of a national coordinating body, which, among other things, should address all aspects of adaptation finance, including providing support and facilitating coordination of all national adaptation measures and ensuring:

- a country-driven, coordinated and multi-sector approach involving all national stakeholders, an the private and public sectors;
- an equitable, efficient and effective use of funding;
- transparent and inclusive involvement of all stakeholders;
- a programmatic approach to funding rather than a project-based approach.

Conclusions regarding public sector delivery post-2012

As is shown in the above sections, the delivery of public resources to address adaptation needs is usually embedded in delivering resources to address broader development needs. Indeed, it has been argued that the most effective approach to reducing vulnerability and enhancing adaptive capacity is integration or mainstreaming, that is, reflecting or incorporating climate change concerns into all public sector activities. While integration is an effective approach to putting adaptation into practice, the financing of adaptation needs to reflect the fact that adaptation is responding to the additional burden posed by climate change – distinct from the ongoing flow of public resources to overall development goals. The additionality of adaptation resources in relation to ODA would be best addressed during the generation of resources (see chapter 6), which, according to developing countries, should be done in a measurable, reportable and verifiable manner.

Once the resources are mobilised through the various channels, they should be disbursed in an integrative fashion. Delivering on adaptation, regardless of whether a vulnerability or a more impact-focused approach is adopted, will be more efficient and effective through the pooling of available resources for development and adaptation, and the strengthening of existing development processes and mechanisms (UNFCCC 2009). All three channels have their specific strengths and weaknesses and, depending on developing countries' evolving national circumstances, one delivery channel may be more appropriate than another at any given time.

The main objective for the delivery of adaptation resources from now until 2012 is to increase delivery through all channels to address the urgent and immediate adaptation needs of particularly vulnerable developing countries.

- Rather than diverting resources from development objectives, delivery of adaptation finance through the public sector in developing countries needs to be mainstreamed into development finance, which could be achieved through the integration of adaptation considerations into national and sectoral planning –

including budget allocations. At the same time, institutional arrangements need to enable the movement towards a greater integration of delivery channels, as envisaged by Bangladesh and South Africa, to enhance the overall effectiveness and efficiency of the delivery of adaptation finance.

- Delivery through the climate-specific funds under the UNFCCC needs to ensure that access is further streamlined, that equivalent support is delivered to mitigation and adaptation and that the predictability of resources for adaptation is increased. As is proposed in the GEF 5 draft adaptation strategy, replenishment of the LDCF and the SCCF should take place following a four-year cycle concomitant with the replenishment of the GEF Trust Fund and result in the availability of USD 1 billion for use up to 2012 (GEF 2009). The Adaptation Fund needs to start delivering resources to support concrete adaptation projects and programmes and to operationalise the direct access option. Increased delivery through the LDCF, the SCCF and the Adaptation Fund would ensure that the NAPA priorities are addressed as well as implementation of the projects in the pipeline so that the other half of the non-Annex I countries can start to address their adaptation needs.
- Delivery through bilateral and multilateral ODA should focus on technical assistance with a view to increasing the institutional capacity in developing countries to deliver adaptation finance in an integrative fashion and to pilot programmatic and budget support modalities, as planned in the PPCR, to gain insights into how adaptation finance can be delivered at much greater volumes and on more strategic scales. Above all, adaptation needs to be integrated into donor round tables and country assistance strategies to ensure country ownership.

Building on the lessons learned and the increased institutional capacity in developing countries, up-scaled adaptation resources post-2012 should predominantly be delivered through the public sector in developing countries and also be directed at addressing medium- to long-term adaptation needs.

- Developing countries envisage developing National Adaptation Plans (see chapter 3), which would assess, identify, cost and prioritise adaptation needs and be consistent with national and sectoral priorities, plans and policies. These plans would inform domestic action and guide the provision of increased international financial support. At the same time, institutional arrangements need to be set up and an enabling environment created through regulatory policies, legislative changes and the removal of barriers to enable a coherent and comprehensive approach to delivering adaptation finance.
- Delivery through climate-specific funds under the UNFCCC should allow for simplified direct access and a move away from project-based to more programmatic support. Support for national adaptation plans could be operationalised through a defined yearly allocation from an Adaptation Fund.

Allocations to developing countries could reflect the degree of vulnerability and the degree to which the national adaptation plan is being implemented effectively. Regardless of which modality of delivery is chosen, a longer term commitment of resources over a three to five year period is critical to allowing developing countries to plan realistically and implement effectively.

- If a commitment to an overall financial target for adaptation finance is to be included in a Copenhagen Agreed Outcome, it could be agreed that a certain portion (e.g. 80 per cent) of that commitment would need to be delivered through Convention funds and that the remaining portion (e.g. 20 per cent) could be delivered through bilateral and multilateral channels, as is the case with the funds provided under the Montreal Protocol. If counted towards such a financial commitment under the UNFCCC, delivery through bilateral and multilateral ODA needs to comply with the principles and guidelines adopted under the Convention. ODA geared to development outside the remit of the UNFCCC should be climate-proofed and consistent with national adaptation plans.

4.3 The role for civil society and private sector delivery

Although the crucial role of the public sector when it comes to delivering adaptation is identified above, based on the nature of adaptation as a public good and the need for the public sector to create enabling environments for other actors to engage with adaptation delivery, we review below the ways in which civil society, the voluntary sector and the private sector could contribute to delivering adaptation in order to provide as full a picture as possible.

Civil society and voluntary sector delivery

International NGOs have started to integrate climate change adaptation into their work in recent years, most notably in the form of advocacy but also in their programming. A survey conducted among 16 international NGOs found that climate change adaptation has gained attention in aid and development programming, although there are ambivalent interpretations of what climate change adaptation is as opposed to disaster risk reduction (Rowling 2008). Most of the adaptation work done by international NGOs is in conjunction with programmes tackling poverty, food insecurity, and so on, and most work is in the early stages of implementation. International NGOs have chosen to mainstream adaptation to climate change with activities ranging from building infrastructure to capacity-building. Some organisations are investing significant resources into developing the capacity and knowledge required to incorporate adaptation into their work, although a few projects have also been developed to address climate change impacts (e.g. Christian Aid, Practical Action). These groups have developed expertise in collaboration with local partners. Care International, for example, has developed a Climate Vulnerability and Capacity Assessment (CVCA) tool to generate detailed information about local livelihoods, climate risks and adaptive capacity, which it uses to target priority issues and highly vulnerable social groups in order to develop an adaptation strategy. Table 4.5 provides a summary of the work

on adaptation performed by 11 international NGOs, limited to those organisations that have joined the Nairobi Work Programme.

Table 4.5: Summary of adaptation work conducted by selected international NGOs

Name	Delivery expertise and focus	Scale (no. of countries)
Oxfam	Mainstreaming disaster risk reduction in poverty reduction and food security	100+ countries, all continents
Christian Aid	Adaptation strategies, disaster risk reduction	60+ countries
Tear Fund	Disaster risk reduction	Not determined
Practical Action	Vulnerability reduction	12 in 3 continents
CARE International	Community-based adaptation projects	66 countries in 3 continents
Catholic Agency for Overseas Development	Disaster response, disaster risk reduction	30+
Conservation International	Ecosystem-based adaptation	15+
The Nature Conservation	Ecosystem-based adaptation	30+
Wetlands International	Ecosystem-based adaptation	20+
WWF	Ecosystem-based adaptation projects	50+
Action Aid (not an NWP member)	Poverty reduction, emergency response, disaster risk reduction	35+

Because international NGOs do not budget for adaptation independently in their work, it is very difficult to estimate how much international NGOs are contributing to global adaptation needs. Oxfam International, for example, one of the largest international NGOs, delivered over USD 550 million in 2007 in programmes targeting the improvement of livelihoods, security and basics social services, whereas Practical Action, a medium-sized international NGO, reported delivery of over USD 25 million in the same period in similar theme areas. Because such programmes can be assumed to reduce vulnerability, it is likely that NGOs deliver millions of US dollars per year for adaptation, but it is difficult to provide a more exact estimate.

Typical beneficiaries

Most of the activities of international NGOs target communities in partnership with local organisations, ranging from community-based organisations to local authorities. These projects are typically conducted within a short time frame (less than five years) mostly due to limited funding, with the exception of capacity-building and coordination efforts. However, international NGOs also often work in partnership with national governments. This cooperation ranges from assisting governments in service delivery, such as health and education, to providing governments with technical advice on matters related to the environment and climate. In host countries, some NGOs engage

directly with the governments in developing disaster risk reduction strategies. In Vietnam, for example, Oxfam, Care and Save the Children have been actively engaged with the central government and donors in creating a coordination committee and, in partnership with local governments and local civil society groups, international NGOs deliver on disaster preparedness and response. In countries such as Mozambique, international NGOs assist governments in developing strategic plans on disaster management on a yearly basis. The integration of civil society into national strategies depends entirely on host countries, and in many cases ministries have engaged civil society actors to assist in delivering services as partners, while in others international NGOs have autonomy in how they operate.

Typical sectors and types of adaptation activities

The sectors on which NGOs concentrate at the moment are *disaster risk reduction* and *ecosystem-based adaptation* (Rowling 2008) (see table 4.5), although this study did not include the work of relief organisations such as the International Committee of the Red Cross, which works on emergency management regardless of the cause. Some organisations, such as Christian Aid and Wetlands International, have developed specific climate change adaptation programmes, which can provide important conceptual and implementation insights. Nevertheless, this focus complements the focus of UNFCCC and ODA funding, which has so far been more on agriculture and water resources.

Most recently, some international NGOs have reported external grants specifically for adaptation, but these are limited (Practical Action 2007). The GEF Small Grants Programme, for example, has collaborated with international and national NGOs in community-based initiatives after developing risk assessment methodologies similar to those developed for the NAPA. Other initiatives by international environmental NGOs, such as WWF, the Nature Conservancy and Conservation International, have developed risk reduction strategies through ecosystem-based approaches with funding from conservation trust funds.

Regarding types of activities, many NGOs have focused on capacity-building and awareness-raising activities around adaptation. In the past few years there have been countless workshops and training sessions, reflecting the fact that one of the current priorities of international NGOs is to build capacity on issues of adaptation among government staff, local NGOs and even among their own staff.

Monitoring and evaluation

International NGOs are subject to monitoring and evaluation according to the rules in the country in which they are registered as a charity, and in some instances it is stipulated in their terms of reference that they report to national governments. This monitoring and evaluation is often limited to financial accountability, but there is no consistency in evaluation methodologies.

Private sector delivery

The role of the private sector is dealt with at length in chapter 7. Below we provide only a short summary of the part of that analysis which is relevant to the delivery stage in adaptation finance.

An initial observation is that there is little documented evidence of private sector delivery so far in the field of adaptation. Therefore, we are restricted to discussing potential roles for the future. In chapter 7, we focus on the role of the international private sector. However, this is closely related to the domestic private sector, through supply chains, ownership and investor relations, and markets. The domestic private sector is likely to be a beneficiary of adaptation financing delivered by the public sector and by civil society, and clearly has a self-interest in adapting itself to the extent it is exposed to adverse climate impacts – either in terms of physical impacts on products or production inputs or in terms of changing business opportunities and markets in an adapting economy. There may also be important positive and negative trickle down effects for local communities and individuals, in that if a local firm adapts its business model in some way it may influence both employment opportunities and the availability of goods and services and thereby significantly affect the local economy. In this way, the domestic private sector is also an important actor to consider as a beneficiary, in addition to its role as delivery agent.

In terms of delivering adaptation to beneficiaries, however, three key roles are identified in chapter 7:

- *As a provider of risk management mechanisms*, including insurance for the poor. The Bali Action Plan and many Submissions by Parties identify a central role for risk sharing and insurance instruments. Although the private insurance industry is already involved in climate-related risk, its access to and penetration of developing country markets could be enhanced through measures such as government subsidies for insurance products for vulnerable poor, better market infrastructure and better climate data. When local conditions hinder either the demand for or supply of insurance products, public sector resources could be used to overcome those barriers so that the final “delivery” stage can be implemented by the private sector.
- *As a designer, manufacturer and/or distributor of goods and services* which can help communities reduce specific climate risks. The private sector has expertise in technology and service delivery and capacity to develop innovative solutions to climate risks. In this role it could be a recipient of public sector adaptation funding, rather than a source of new funding, and help deliver adaptation on the ground. Fostering greater responses by the private sector to the adaptation priorities of developing countries, such as those expressed in the NAPAs, could facilitate greater competition for available multilateral or bilateral funding, and thereby theoretically lower the costs required to implement individual projects and measures. This would stretch existing funding further, and hence assist the UNFCCC’s objective of optimising the use of available financial resources.

- *By ensuring that major new investments in developing countries are climate-proofed* (i.e. not maladaptive). Private investment can inadvertently support or undermine the adaptation efforts of developing countries. Thus, it is necessary to ensure that decision-making takes account of future climate risks so that adaptation efforts are not compromised by ill-directed investment. The UNFCCC refers to this as an attempt to shift investments and financial flows. Note that there is no clear definition of climate-proofing – it could be interpreted as either a passive, minimalist action to reduce exposure to climate impact (e.g. switching the location of a agricultural input factory from a floodplain to a higher altitude) or an active, maximalist action to reduce exposure *and* adapt/enhance adaptive capacity (e.g. switching the location of the factory *and* switch production to more drought-resistant crops). Clearly, there is a stronger element of delivering adaptation to the wider community if climate-proofing is undertaken in the latter mode.

Multiple agents of delivery: Division of roles and responsibilities

As was done for the three modes of public sector delivery above, an analysis of the appropriate division of roles and responsibilities between the public sector, civil society and the private sector in delivering adaptation could be performed, with a view to understanding their complementarity and the ways of combining comparative advantages. As can be seen from the short examination above, there are already many actual and potential links between the public, voluntary and private sectors in delivering adaptation finance. However, such an analysis would require a more careful and rigorous examination of, in particular, the experience of civil society and private sector delivery on the ground.

Two important points of departure for such an analysis can be identified. First, the basic drivers, incentives and modes of operation of these three types of actor would need to be understood. For example, the private sector is likely to respond best to commercial opportunities and profit-making incentives, while the public sector responds, *inter alia*, to calls for accountability from higher or lower levels. The trick would be to map out these different drivers and find clever ways of combining them, so that all actors have an active self-interest in contributing. Second, the stage of delivery would benefit from being disaggregated into sub-stages, in order to show how different actors can work in combination rather than isolation. An illustrative way of doing this would be to track how a dollar of adaptation finance would travel through the system, which would also indicate bottlenecks and transaction costs as well as possible multiplier effects. For example, one could imagine how a dollar paid from a UNFCCC fund to a developing country adaptation programme could be spent on improving insurance-related infrastructure in a developing country community, which would attract private insurers to exploit a new market and attract NGOs to undertake awareness-raising and capacity-building among insurance takers on how they could limit risks and lower premiums.

4.4 Criteria for eligibility and prioritisation of adaptation projects and programmes

Choosing delivery agents, to the extent that this is indeed a choice, is one aspect of delivery. The other is how the funds are delivered to and allocated among competing purposes. Section 4.2 on public sector delivery above, and in particular in relation to UNFCCC funds, refers to the various policies and guidelines of existing funds on which adaptation projects and programmes, as well as countries, are eligible and prioritised to receive funds. Since funds in the short- to medium-term are likely to be scarce in comparison with the estimated funding gap (see chapter 6), such criteria play an important role in the current negotiations on institutions for financing under a new climate agreement. This section provides a more forward-looking analysis of the main issues and questions surrounding such criteria.

Developing country status and eligibility

This issue has already been raised for the Adaptation Fund and is also likely to be relevant to post-2012 arrangements. With respect to the Adaptation Fund, article 12, paragraph 8, of the Kyoto Protocol states that “a share of the proceeds from certified project activities is used to assist *developing country Parties* that are *particularly vulnerable* to the adverse effects of climate change to meet the costs of adaptation”. This is reflected in Decision 10/CP.7, which states that “an adaptation fund shall be established to finance concrete adaptation projects and programmes in developing country Parties that are Parties to the Protocol”, and again in Decision 1/CMP.3, which states that “the Adaptation Fund shall assist developing country Parties to the Kyoto Protocol that are particularly vulnerable to the adverse effects of climate change in meeting the costs of adaptation”.

The *Draft Strategic Priorities, Policies and Guidelines of the Adaptation Fund* states that Parties eligible to receive funding from the Adaptation Fund are understood as developing country Parties to the Kyoto Protocol that are particularly vulnerable to the adverse effects of climate change, including low-lying and other small island countries, countries with low-lying coastal, arid and semi-arid areas or areas liable to floods, drought and desertification, and developing countries with fragile mountainous ecosystems. This grouping is reflected in the preambular part of the Convention, and is also recognised in Decision 28/CMP.1.

The existing funds for adaptation under the Convention have different eligibility criteria. Countries eligible for the GEF-SPA are developing country Parties to the UNFCCC as well as, primarily, those Parties with economies in transition that are eligible to borrow from the World Bank or receive technical assistance grants from the UNDP. All developing country Parties are eligible for the SCCF, whereas only the LDC Parties are eligible for funding from the LDCF.

Country eligibility in the PPCR will reflect eligibility for ODA according to the guidelines of the DAC of the OECD, and the presence of an active country programme of a multilateral development bank (i.e. where a multilateral development bank has a

lending programme and/or an ongoing policy dialogue with the country). The PPCR will give priority to highly vulnerable LDCs eligible for concessional funds from multilateral development banks.

The question of country eligibility appears straightforward. However, the Convention does not define “developing country Parties” and nor does it state explicitly which ones are particularly vulnerable to the adverse effects of climate change. As a result, three contentious issues have arisen in the discussion of country eligibility:

- Which countries are developing countries?
- Which developing countries are particularly vulnerable?
- Which particularly vulnerable countries should be given priority for funding?

While the Convention does not define developing countries, it does define as “Annex I” a group of Parties that can be seen as developed countries and countries undergoing the process of transition to a market economy. Thus, Annex I includes the industrialised countries that were members of the OECD in 1992, as well as countries with economies in transition, including the Russian Federation, the Baltic States and several, but not all, Central and Eastern European countries. The remaining Parties, not included in Annex I, therefore include all developing country Parties as well as those Parties with economies in transition whose greenhouse gas emissions in 1992 did not warrant their inclusion in Annex I. However, the development status of countries evolves over time, and this is only in part reflected by the current grouping of Parties in Annex I.

The list of developing countries that are particularly vulnerable to the adverse effects of climate change, as stated in the *Draft Strategic Priorities, Policies and Guidelines of the Adaptation Fund*, can be interpreted to include all developing countries. The BAP is somewhat more specific. Paragraph 1(c)(i) states that “the urgent and immediate needs of developing countries that are particularly vulnerable to the adverse effects of climate change, especially the least developed countries and small island developing States, and the needs of countries in Africa affected by drought, desertification and floods shall be taken into account.”

In spite of this more specific listing of particularly vulnerable countries in the BAP, further prioritisation of countries is seen as desirable. In their submissions to the AWG-LCA on ideas and proposals on the elements contained in paragraph 1 of the BAP, Parties suggested that funding should be provided as a priority to particularly vulnerable developing countries, especially the LDCs and the SIDS, and that priority should be given to funding the poorest and most vulnerable countries and those most in need. In addition, Parties proposed that allocations of funds for adaptation should be based on vulnerability indicators or a vulnerability index reflecting country circumstances, respective capabilities, the level of risk and physical impacts.

The issues outlined above have the potential to delay further decision-making on the allocation of resources from the Adaptation Fund. One proposal to proceed would be to take paragraph 1(c)(i) of the BAP as the starting point for an operational Adaptation Fund and, in line with the *Draft Strategic Priorities, Policies and Guidelines of the Adaptation Fund*, give priority in a balanced and equitable manner to all LDCs, SIDS and African countries affected by drought, desertification and floods.

After these first projects and programmes, funded from the first round of monetisation of certified emission reductions (CERs), all non-Annex I Parties would be given access to Adaptation Fund resources. Funding allocation could be decided on the basis of criteria reflecting ranges of vulnerability (see below), urgency and capacity. These criteria will be developed by a group of experts, which may be appointed either by the Adaptation Fund Board or by the COP, and either under the Nairobi Work Programme for Impacts, Vulnerability and Adaptation or under the AWG-LCA.

Given that new and additional financial resources for adaptation under a Copenhagen Agreed Outcome are also likely to be scarce in relation to the projected needs, a similar approach could be taken there. However, a couple of critical points may need further consideration:

- To ensure fairness and procedural equity, the timeframe of the funding “rounds” may need to be set out in advance, together with the total budget allocations for those respective rounds. This would have the likely implication that applications for funding could not be considered on a continuous basis but would need to be considered jointly after a given deadline, in order to ensure that fair chances are offered to compete over scarce funds.
- To the extent that a Copenhagen Agreed Outcome would be a long-term agreement, allocation rounds and respective budgets would have to be continually redefined, balancing stability for contributors and recipients with flexibility in the light of changing adaptation needs and levels of available resources.

Particularly vulnerable countries and groups

An alternative to the BAP listing, or a complementary way of going forward with further narrowing down the BAP listing, is to try to measure vulnerability in more detail rather than using the three groupings as proxies. It should be noted that the Adaptation Fund has defined “level of vulnerability” as a selection criterion on top of eligibility requirements. One way to measure vulnerability in more detail would be to identify regions/countries with certain geographical features that make them vulnerable to climate impact. The conditions identified for the Adaptation Fund could be used as a basis:

- low-lying and other small island countries;

- countries with low-lying coastal, arid and semi-arid areas or areas liable to floods, drought and desertification; and
- developing countries with fragile mountainous ecosystems.

In addition to “particularly vulnerable countries”, many Parties, both developing and developed, emphasise the need to ensure that adaptation finance is delivered to the most vulnerable groups *within* countries. Some of the geographical conditions may also apply differently within countries, and could therefore be a basis on which to differentiate vulnerability among groups.

Another approach is to understand vulnerability in more socio-economic terms, and factor in that poverty is positively correlated with climate vulnerability. This is the rationale for specifying LDCs in the BAP. If such socio-economic data are available at the sub-national level, a similar classification of groups, administrative regions or communities could be made there. Such a classification could be extended by including the economic structure of countries or groups. The review of adaptation needs in chapter 3 found that most needs have been identified in the primary sectors of agriculture, forestry and fisheries. The proportion of these sectors in the national or sub-national GDP could thus be another vulnerability indicator.

The *Draft Strategic Priorities, Policies and Guidelines of the Adaptation Fund* reflects these views. It states that decisions on the allocation of the resources of the Adaptation Fund among eligible Parties shall take into account the following:

- level of vulnerability;
- level of urgency and risks of delay;
- capacity to adapt to the adverse effects of climate change.

How easy would it be to construct some sort of vulnerability index in practice? The World Bank PPCR has apparently developed some vulnerability indicators, which should be consulted once they are made public. It should also be noted that, to the extent that national governments will be recipients of funds (see chapter 5), the allocation at the sub-national level between less or more vulnerable groups will be at their discretion. However, there may be a common interest in developing good practice.

A vulnerability index to determine adaptation priorities could use a set of indicators to assess three important factors: exposure, adaptive capacity and sensitivity. For example, the Human Development Index could be used as a proxy for adaptive capacity, and use made of the indicators to measure exposures and sensitivity used by the insurance industry. The challenge, however, is clearly not just a lack of knowledge in this area, but also the political infeasibility of agreeing on an index that will rank countries. Countries such as Bangladesh have often stressed the need to develop a vulnerability criterion to determine access to any adaptation funds, while bodies such

as the Alliance of Small Island States (AOSIS) stress using agreed language in the BAP to prioritise access. Meanwhile, other developing countries that are not covered in the BAP definition stress their vulnerability during AWG-LCA meetings, particularly Colombia and Central America.

Experts have generally been sceptical about developing vulnerability indices. Social, economic and environmental circumstances vary considerably between and within countries, and to capture these differences in a vulnerability index would require making subjective choices that cannot be informed by scientific findings alone.

In sum, unless vulnerability indicators stemming from the three geographical conditions listed above as well as socio-economic conditions can be politically agreed, it may be that country allocations will be made on some other basis, such as population, GDP or in equal shares.

Other possible criteria for prioritisation

Assuming that adaptation finance under a Copenhagen Agreed Outcome will be influenced or inspired by current discussions on criteria for prioritising project, programme or country allocations, as is currently being discussed by the Adaptation Fund Board, the need to ensure that such criteria are consistent and clear should also be flagged. The *Strategic Priorities, Policies and Guidelines of the Adaptation Fund* include the following list of criteria and aspects to be considered (our emphasis):

15. In assessing project and programme proposals, the Adaptation Fund Board shall give particular attention to:

- (a) *Consistency with national sustainable development strategies*, including, where appropriate, national development plans, poverty reduction strategies, national communications and national adaptation programmes of action and other relevant instruments, where they exist;
- (b) *Economic, social and environmental benefits* from the projects;
- (c) Meeting *national technical standards*, where applicable;
- (d) *Cost-effectiveness* of projects and programmes;
- (e) Arrangements for *management*, including financial and risk management;
- (f) Arrangements for *monitoring and evaluation* and impact assessment;
- (g) *Avoiding duplication with other funding sources* for adaptation for the same project activity;
- (h) Moving towards a *programmatic approach*, where appropriate.

16. The decision on the allocation of resources of the Adaptation Fund among eligible Parties shall take into account:

- (a) Level of *vulnerability* (see above);
- (b) Level of *urgency and risks* arising from delay;
- (c) Ensuring *access* to the fund in a *balanced and equitable* manner;

- (d) *Lessons learned* in project and programme design and implementation to be captured;
- (e) Securing *regional co-benefits* to the extent possible, where applicable;
- (f) Maximising *multi-sectoral or cross-sectoral benefits*;
- (g) *Adaptive capacity* to adverse effects of climate change.

There are clearly potential conflicts between some of these criteria which should be addressed in order to facilitate a fair, transparent and coherent set of rules for applicants for funding. For example, measuring adaptation benefits (whether categorised into economic, social and environmental or not (15(b)) is conceptually and practically difficult, which means that it would be very difficult to compare the cost-effectiveness (15(d)) of submitted projects and programmes. Financial and risk management (15(e)) may be higher where institutional capacity in general is greater, which could exclude some very vulnerable (16(a)) countries with low capacity from funding, and thus lead to failure in meeting the criterion on ensuring access to the fund in a balanced and equitable manner (16(c)).

While all these criteria are open to interpretation, and not all of them may be considered for delivery arrangements under a Copenhagen Agreed Outcome, the purpose of these examples is to demonstrate the need to internally prioritise among criteria so that they do not send mixed signals. Alternatively, the scoring system where applications are tested against the criteria must be extremely transparent and perceived as legitimate. Obviously, criteria such as these will be less of an issue if a Copenhagen Agreed Outcome were to make national allocations based on some predefined formula rather than allocations directly to projects and programmes. However, to the extent that diverse criteria such as these feed into that national allocation formula the same problem applies.

4.5 Summary and conclusions

This chapter considered how the adaptation needs reviewed in chapter 3 are currently being and could be fulfilled through available and future delivery mechanisms. This matching is difficult to do because of the lack of available data, but the key strengths and weaknesses of different delivery mechanisms were identified and the different roles of domestic public resources, UNFCCC funds and ODA in a Copenhagen Agreed Outcome discussed. There already appears to be some degree of complementarity, but the matching of delivery and adaptation needs cannot be made only in terms of comparative expertise and the interests and capacities of the different delivery agents. It must also be made with reference to key agreed political and legal principles (see chapter 2). One conclusion that can be made, however, is that the issue of the additionality of finance streams is best addressed at the generation stage, while the delivery on the ground would benefit from integrating or coordinating the adaptation finance emanating from different sources.

Section 2 of this chapter addressed the issue of the criteria for eligibility and the prioritisation for allocating future UNFCCC funds to countries, projects and programmes. In the absence of a clear definition of developing countries under the UNFCCC, one option for allocating among countries is through specific funding rounds where the least developed are prioritised first. It is more difficult to come up with easy solutions to the recognition of “particular vulnerability”. Any indicators of vulnerability will need to be developed and agreed politically rather than in a scientifically objective way. Finally, it is argued that any other criteria for allocating funds, such as financial management capacity, cost-effectiveness and the level of urgency, must be carefully weighed against other criteria, including a large number of sometimes conflicting criteria that will send mixed signals and make the allocation process less transparent and less fair.

5 GOVERNANCE OF ADAPTATION FINANCE

KEY MESSAGES

- The current institutional architecture of the financial instruments for adaptation under the United Nations Framework Convention on Climate Change (UNFCCC) is overly complex, and its governance is inadequate in terms of efficiency, fairness and responsiveness to the needs of developing countries.
- The governance of adaptation finance under a Copenhagen Agreed Outcome needs to: (i) be under the guidance and authority of the Conference of the Parties (COP) to the UNFCCC; (ii) be transparent, efficient, effective and equitable; and (iii) result in coherence between UNFCCC and non-UNFCCC sources of funding.
- The institutional architecture for adaptation finance under a Copenhagen Agreed Outcome should be country-driven and promote country ownership by devolving decision-making on adaptation activities and priorities to the national level.
- A Copenhagen Agreed Outcome should seek to avoid further fragmentation of adaptation finance by consolidating funds at the international level, thereby also ensuring consolidated adaptation decision-making at the national level.

Having provided the broader picture of adaptation finance from various delivery agents in chapter 4, this chapter discusses the modalities and institutional architecture by which adaptation financing is currently being generated, managed and delivered under the UNFCCC. It addresses both UNFCCC and non-UNFCCC governance systems, including the Adaptation Fund. Second, the chapter summarises the views expressed by Parties and observers on the current governance system. Third, the chapter presents existing proposals for alternative or adjusted governance systems, and discusses the extent to which they meet the requirements presented above.

5.1 Current governance of adaptation finance

Financial resources for the implementation of the Convention are provided on a grant or concessional loan basis by a financial mechanism that, in accordance with UNFCCC article 11, functions under the guidance of and is accountable to the COP. Article 21.3 entrusted the Global Environment Facility (GEF), on an interim basis, with the operation of the financial mechanism of the UNFCCC.¹⁹ The GEF has also developed instruments for the transfer of financial resources from developed to developing countries. The instrument for adaptation finance through the GEF is the Strategic

¹⁹ The status of the GEF was upgraded from an interim to a formalised entity operating the financial mechanism at COP 4 in 1998 (UNFCCC decision 3/CP.4).

Priority “Piloting an Operational Approach to Adaptation (SPA)”, which is part of the GEF Trust Fund. The Least Developed Countries Fund (LDCF) and the Special Climate Change Fund (SCCF), which are separate funds established by the COP, are not developed by the GEF but also serve to transfer resources. As of November 2008 these three funds had received allocations and pledges of around USD 313 million (see chapters 4 and 6).

The GEF provides funding to meet the agreed incremental costs of projects to generate global environmental benefits in the climate change and other areas.²⁰ The GEF is funded by donor countries, some of which are also recipients, which commit resources every four years through a replenishment process of the Trust Fund. During the fourth GEF replenishment in 2006, 32 donor countries pledged USD 1 billion to support activities in the area of climate change between 2007 and 2010. Negotiations on the fifth GEF replenishment are under way. Contributions to the LDCF and SCCF are made separately from the GEF replenishment process.

Figure 5.1 shows the governance system by which the SPA, the LDCF and the SCCF operate. The system has been designed to meet developing countries’ needs for adaptation by providing support for actual adaptation projects in accordance with the guidance developed for the respective instruments. During COP negotiations, developing countries express their needs and concerns and pursue their interest in adaptation funding. This results in COP decisions, which form the guidance to the GEF. The COP can thus establish financial instruments with specific priorities (i.e. on the activities that are to be funded), eligibility criteria (i.e., which Parties and bodies can receive funding) and policies, including disbursement criteria (i.e., what share of a project can be funded).

The GEF then implements the relevant COP decisions. It operates the financial instruments by developing operational programmes, providing programming documents and allocating resources. Developing countries can further pursue their interest in adaptation funding and further negotiate operational modalities at meetings of the GEF Council, which take place twice a year to decide on the operation of the financial instruments. Once a financial instrument is operational, eligible countries can propose projects based on their adaptation needs through one of the three implementing agencies of the GEF: the United Nations Development Programme (UNDP), the United Nations Environment Programme (UNEP) and the World Bank. Seven additional Executing Agencies, including regional development banks, contribute to the implementation of GEF projects.

The institutional architecture of the Adaptation Fund was set out in Decision 1/ CMP.3 in Bali in 2007. Importantly, it was decided that the Adaptation Fund should be managed not by the GEF but by a special Adaptation Fund Board, thereby creating a second entity operating the financial mechanism of the UNFCCC (see article 11.1).

²⁰ In addition to climate change, the GEF supports projects related to biodiversity, international waters, land degradation, the ozone layer and persistent organic pollutants.

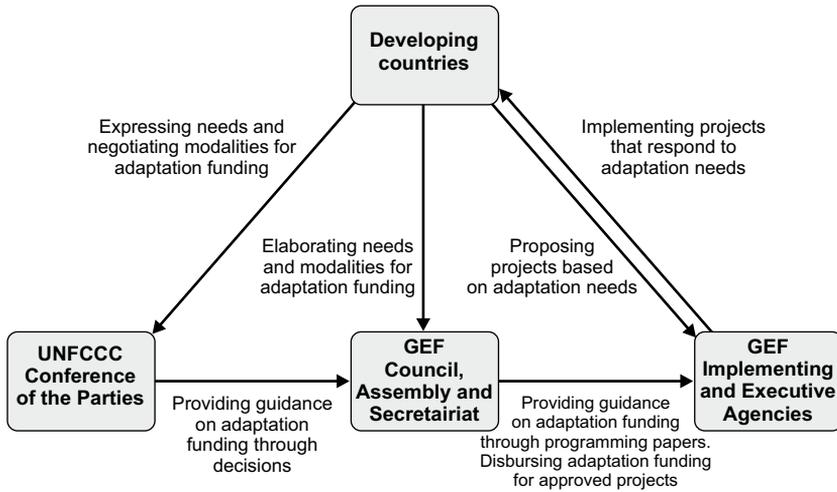


Figure 5.1: Current governance system of adaptation finance under the GEF

Source: Möhner and Klein (2007); Klein and Möhner (2009)

The Adaptation Fund Board is developing specific operational policies and guidelines to be finalised in June 2009. A second important element of Decision 1/CMP.3 is that eligible Parties have the option of accessing the Adaptation Fund directly. This means that, unlike for the GEF-managed funds, adaptation activities can be proposed and implemented without the involvement of a multilateral implementing entity but using a national implementing entity instead.

Governance systems for the adaptation finance that is channelled through ODA vary depending on the donor or donors involved and on whether the finance is made available as part of a bilateral or a multilateral initiative. Generally, governance is donor-led although the importance of country-driven decision-making is increasingly recognised (e.g. through the Paris Declaration on Aid Effectiveness and the Accra Agenda for Action) (see chapter 4). This implies that donors respect leadership by developing countries and help to strengthen their capacity to exercise it. In particular, developing countries are to take the lead in coordinating aid at all levels, in dialogue with donors and with the participation of civil society and the private sector. However, there has been significant disappointment with how well the principle of country ownership is working and it has been noted that conditionalities in different forms are still being used (see Persson forthcoming).

5.2 Views on the current governance of adaptation finance

Based on the views expressed by developing country Parties and various evaluations, the governance of the current GEF-managed funds is widely considered to be inadequate. For example, at the twelfth session of the COP, in Nairobi in 2006, Parties requested the GEF, among other things, “to further simplify its procedures and improve the efficiency of the process through which developing country Parties receive funding” and “to explore options to address concerns of developing country Parties on requirements for leveraging additional funds for projects”.

A series of independent studies have analysed the GEF-managed funds in terms of their efficiency, fairness and responsiveness to the needs of developing countries and found several shortcomings. For example, in 2006 the GEF Evaluation Office concluded “that the GEF activity cycle is not efficient, that the situation has grown worse over time and that GEF modalities have not made full use of trends towards new forms of collaboration that serve to promote efficiency.” According to the GEF Evaluation Office, “the cycle management of the GEF lags behind international good practice in terms of efficiency.” Möhner and Klein (2007) found that the GEF does not fully adhere to COP guidance on the SPA, the LDCF and the SCCF, and that the implementing agencies do not fully adhere to GEF guidance on these funds. Möhner and Klein concluded that non-adherence is due to the complex governance system for adaptation funding, which leads to imperfect design and inconsistent implementation of guidance on the operation of the three funds.

Parties have expressed similar views on the GEF-managed funds in their submissions to Ad-Hoc Working Group on Long-term Cooperative Action (AWG-LCA). For example, the Alliance of Small Island States (AOSIS) states that “The inadequacy of financing for adaptation activities in vulnerable developing countries, particularly Small Island Developing States and Least Developed Countries, is a major failing of the entire international system as well as the Convention process.” Apart from the consensus on the need to scale up the total level of adaptation finance available, there is thus strong pressure from developing countries to reform the governance of the financial mechanism under the UNFCCC.

5.3 Proposals for future governance of adaptation financing²¹

Under the UNFCCC regime, the international community has the right to expect efficient use of its funds, and at the same time it has an obligation to ensure that those who are entitled to restitution actually receive it. A proper institutional architecture and a governance regime established under a reformed UNFCCC financial mechanism is important to ensuring that people are not prevented from receiving their legitimate

21 This section is primarily based on Müller (2008) and Müller and Gomez-Echeverri (2009).

restitution payments because of bad governance or the lack of “absorptive capacity” of a financial mechanism. This section presents the main proposals from Parties and observers for future governance of adaptation financing. The discussion summarises the architecture and governance structures of a G77+China proposal and the proposed Reformed Financial Mechanism (RFM), a proposal by the European Commission, the Compact Model and proposals from Switzerland, Mexico, and Norway. The section then discusses two kinds of opposing governance principle that run through the proposals.

Proposals

The G77+ China Proposal

The Philippines, on behalf of the G77 and China, have submitted a proposal for enhanced action on the provision of financial resources and investment based on equity and the principle of common but differentiated responsibilities. The proposal involves: direct access to funding by eligible recipients; and recipient country involvement during the stages of identification, definition and implementation, in order to make it truly demand driven.

As is illustrated in figure 5.2, the financial mechanism is to operate under the authority and guidance of the COP as the supreme decision-making body of the Convention. The COP shall decide on policies, programme priorities and eligibility criteria. A *Board* will be appointed by the COP, and it will have an equitable and balanced representation of all Parties within a transparent and efficient system of governance. The Board shall be assisted by a *secretariat* of professional staff contracted by the Board. The COP and the Board shall establish *specialised funds* (or *funding windows*) under its governance, and a mechanism to link various funds which would be administered by a *Trustee* or Trustees, selected through a process of open bidding. Each of the separate funds may be advised by an expert group or committee, which could also be supported by a technical panel or panels addressing specific issues addressed by the fund. In order to ensure transparent and efficient governance, other possible components of the structure include a *consultative/advisory group* of all relevant stakeholders, and an *independent assessment panel*. The modalities for determining the role of existing funds and entities for the operation of the financial mechanism are left to be worked out in the future.

The proposal requires the main source of funding to come through the implementation of commitments under article 4.3, and the funding to be new and additional financial resources over and above ODA. The major source of funds is envisaged to be the public sector. Any funding pledged outside of the UNFCCC would not be regarded as counting towards the fulfilment of commitments by developed countries under article 4.3.

The predictability, stability and timeliness of funding should be ensured. The resources should be essentially grant-based, particularly for adaptation, without prejudice to certain concessional loan arrangements, and in appropriate form to meet the needs of a specific programme. Also, the level of the new funding is to be set at 0.5–1 per

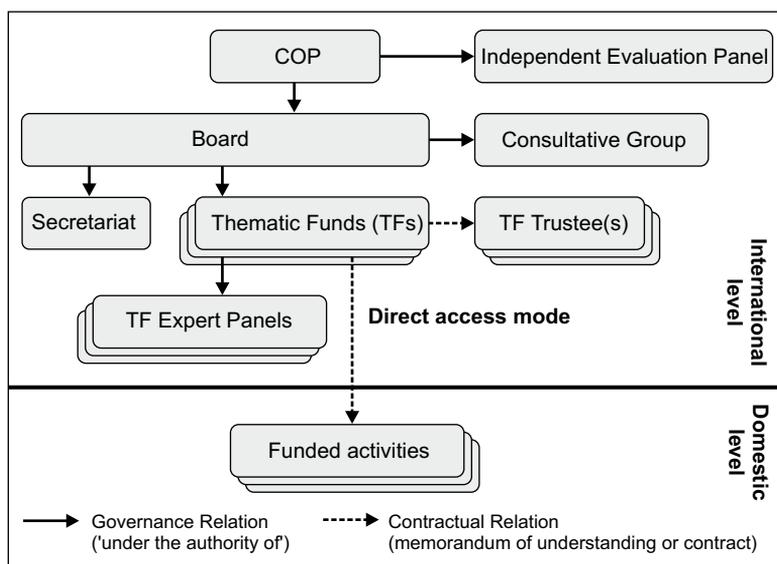


Figure 5.2: Institutional architecture of the G77+China Proposal

cent of the GNP of Annex I Parties. Quantified commitments by developed countries to adequate and predictable funding for mitigation and adaptation must be addressed. The portion of funding that must be allocated to adaptation and mitigation and their respective means of implementation would be decided by the Board and periodically reviewed, taking into account the historical imbalances in and the urgency of funding for adaptation.

The Reformed Financial Mechanism Proposal

The RFM was conceived as a *consolidated and devolved operationalisation of the G77+China proposal*.²² Its governance is based on a fundamental institutional distinction between the COP as “legislative branch”, and an administration headed by an *Executive Board* (“Board”) under the authority of the COP, to reflect different decision-making remits. A *secretariat*, composed of thematic Assessment Units (AUs) and a Secretarial Unit, provides assessments of country funding needs and (logistical) support services. The distinction between the Executive Board and subordinate administrative Assessment Units provides an institutional boundary for political decision-making within the administration of the RFM, by confining it to the Board, the purely operational decisions of the thematic Assessment Units would be taken by professional administrators appointed by the Board on a competitive basis. A number of other entities – such as an RFM *Trustee*, a Board of Auditors and regional/national

22 The RFM proposal was first published in Benito Müller and Luis Gomez-Echeverri in April 2009. See www.OxfordClimatePolicy.org.

Climate Change Funds – are used to “outsource/devolve” some of the RFM activities and decisions (figure 5.3).

The RFM distinguishes between “funding” and “disbursement.” The former is used in the context of particular concrete activities (projects, programmes, etc.). One of the key features of the RFM is that *funding decisions are devolved to the national-level Climate Change Funds*. The RFM itself is solely concerned with disbursing the revenue (set by the COP) to these national Climate Change Funds on the basis of thematic country needs assessments carried out by the administrative Assessment Units on the basis of thematic strategies formulated by the eligible countries. These thematic country needs assessments are the basis for thematic budget proposals collated by the Board for approval by the COP.

The RFM also envisages a *certification and registry system for payments towards compliance with financial commitments by developed countries*, made up of a Central Registry with subordinate National Registries. Given the sensitive nature of the data, these National Registries are housed in-country (“at the receiving end”) with the national Climate Change Funds. The Board is responsible for the monitoring and oversight of the financial certification and registry system, but it is the responsibility of the CCFs to certify the relevant measurable, reportable, verifiable (MRV)-support and other payments on the basis of criteria agreed by the COP.

The *oversight* of the RFM includes an internal and an external component, involving a number of different oversight activities, such as financial, compliance and performance audits,²³ as well as technical evaluations and monitoring. Apart from this, an independent *complaints procedure* and an *outreach and consultation process* are proposed to enable stakeholders to provide direct input and feedback to the Board. The Board is responsible to the COP for the internal oversight of RFM activities (Board, secretariat), internal audits, to be carried out by the UN Office for Internal Oversight Services (OIOS),²⁴ and the monitoring and technical evaluation of internal RFM activities, to be carried out by the RFM secretariat.

The COP would be responsible for the external *auditing* of the RFM. As for all United Nations funds and programmes, this task is to be carried out by the UN Board of Auditors. The remit of the external audits will cover financial, compliance and performance audits of the RFM Administration as well spot checks on activities which are subcontracted by the RFM. RFM contractors, such as the RFM Trustee and the national Climate Change Funds, would be contractually obliged to have their RFM-funded activities externally audited by the relevant national Supreme Audit Institutions (“national audit offices”), and in the case of the CCFs in accordance with guidelines set up by the UN Board of Auditors, and approved by the COP; and to grant the right of

23 Given that RFM would be established as a United Nations fund, audits (external and internal) would be carried out by the relevant UN bodies, i.e., the UN Board of Auditors (external audits), and UN OIOS (internal audits).

24 See www.un.org/depts/oios/

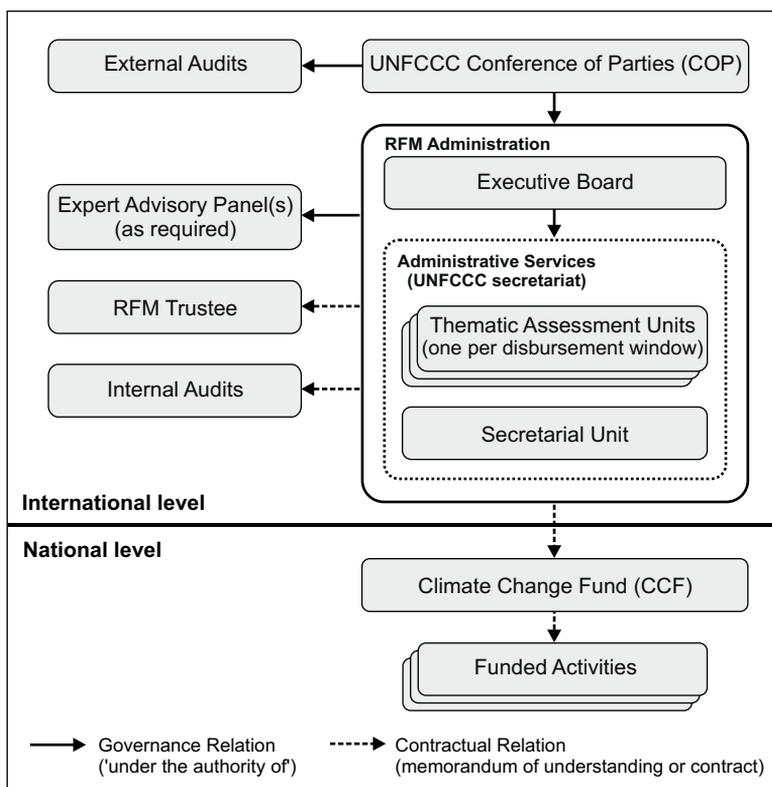


Figure 5.3: Institutional architecture of the Reformed UNFCCC Financial Mechanism (RFM)

spot check access to either the external auditor of the RFM (UN BOA) or a mutually acceptable third party.²⁵

Outreach activities ensure a periodic provision of inputs by stakeholders (e.g. through regional sessions of a Consultative Forum), while complaints procedures would ensure that allegations of malpractice come to the attention of the Board and the COP. The RFM secretariat would organise the outreach activities of the RFM. The complaints procedure would be managed by a dedicated unit at the secretariat, or by an independent body such as the UN Ombudsman.²⁶

As to governance, the RFM emphasises the principles laid down in the Convention and those put forward by the G77+China, in particular, that it has “an equitable and

25 This follows the example of UNDP, which uses the “national execution” modality for many of its projects around the world, in which the practice is to agree with the government a mutually acceptable third party audit institution to undertake regular certified audits.

26 See <http://www.un.org/ombudsman/>

geographically balanced representation of all Parties within a transparent and efficient system of governance (article 11, para. 2, UNFCCC), and that it ensures recipient country involvement during the stages of identification, definition and implementation, rendering it truly demand driven". With respect to the latter, it goes beyond the G77+China proposal by devolving all funding decisions and activities (activity evaluation, monitoring etc.) to the national level.

The Bangladeshi Multi-Donor Trust Fund

One of the possible models for the national level climate change decision and funding hubs suggested in the RFM is a "nationalised" version of the recently discussed Bangladeshi *Multi-Donor Trust Fund for Climate Change* (MDTF).²⁷ This proposal suggests the integration of the resources provided from UNFCCC and ODA sources. According to a recent draft Concept Note, the objective of the MDTF is to support the implementation of Bangladesh's Climate Change Strategy and Action Plan (CCSAP), which was launched on 10 September 2008. The benefits of having a MDTF, according to the Note, are high-level coordination, elimination of overlaps, donor harmonisation, flexibility in fund management, transparency and the possibility of attracting additional funds from both local and external sources. The MDTF is meant to become a "one-stop" mechanism for large scale climate change financing in Bangladesh. The MDTF is to be institutionally divided into a Policy Council, a Management Committee, a secretariat and an Administrator.²⁸ A Trustee is to disburse the funding under two windows: an on-budget window for funding public sector projects; and an off-budget window for funding projects from civil society. All projects are to be rigorously reviewed to ensure consistency with the priorities laid out in the CCSAP.

The Policy Council (PC) is to be chaired by the Permanent Secretary of the Planning Division, and comprise representation – at the level of Secretary – of eight government agencies: the Finance Division and the ministries of Environment and Forests; Agriculture, Livestock and Fisheries; Water Resources; Food and Disaster Management; Local Government; Rural Development and Cooperatives; and Communication. In addition there will be a maximum of three donor and a maximum two civil society members. The Policy Council will endorse overall priorities, give strategic guidance and ensure that the MDTF provides coherent support to Bangladesh's CCSAP. The PC will operate by consensus but, in the event of no consensus being achieved, will resort to majority voting.

The Management Committee (MC) is to be chaired by the Secretary of the Finance Ministry's Economic Relations Division – the designated government focal agency for the MDTF. It is to be co-chaired by a donor representative and the Administrator, who will be the Bangladesh Country Director of the World Bank. It will have at most seven members from government agencies, at most five representatives of donor agencies, as well as a representative from civil society. The MC is to be responsible

27 That is, involving only national stakeholders

28 The Country Director of the World Bank.

for: (i) reviewing the basic principles, objectives and guidelines for MDTF operations; (ii) assessing funding proposals; (iii) monitoring progress of MDTF implementation; and (iv) the reviewing, monitoring and evaluation of reports prepared by the secretariat for submission to the PC and the donors.

The secretariat: The Administrator will manage the MDTF's work programme on behalf of government and contributing donors through the secretariat. The secretariat will carry out the day-to-day running of the MDTF, prepare semi-annual reports and submit them to the MC. The latter will share the reports with the PC and donors.

On-budget activities are to be approved in a six-step process:

- 1 A Project Concept Note is to be submitted to the Chair of the MC.
- 2 The MC is to review and endorse the Concept Note.
- 3 Projects greater than USD 3.6m will be reviewed by the World Bank, in accordance with its guidelines on the basis of a Project Appraisal Document.
- 4 The MC comments on the Project Appraisal Document.
- 5 Government clearance of the project.
- 6 Negotiation of a grant agreement between the World Bank and the project implementing agency.

Off-budget activities will focus on community-based activities that fall under the CCSAP. The MC will delegate the overall responsibility for processing and implementing off-budget activities – including the call for proposals, review monitoring, supervision and compliance with fiduciary requirements – to an independent organisation, such as the Social Development Foundation. NGOs submitting proposals to the selected independent organisation must be officially registered with the NGO Affairs Bureau. Community-based organisations, research institutions and other civil society groups may also submit proposals. Each proposal must be accompanied by a copy of the NGO registration or the organisation's official incorporation and the organisation's most recent independent financial audit.

The Compact Model

A recent UK discussion paper, the *Future Financial Architecture for Climate Change*, introduces a "Compact Model" (CM) with an institutional architecture which is presented as a possible "future financial mechanism" to be established under article 11 of the UNFCCC (figure 5.4).

The role of the COP under the CM is that of "setting targets, identifying sources of finance and agreeing the broad policy framework". The CM discussion paper is concerned that "there should be a clear distinction between policy guidance (the

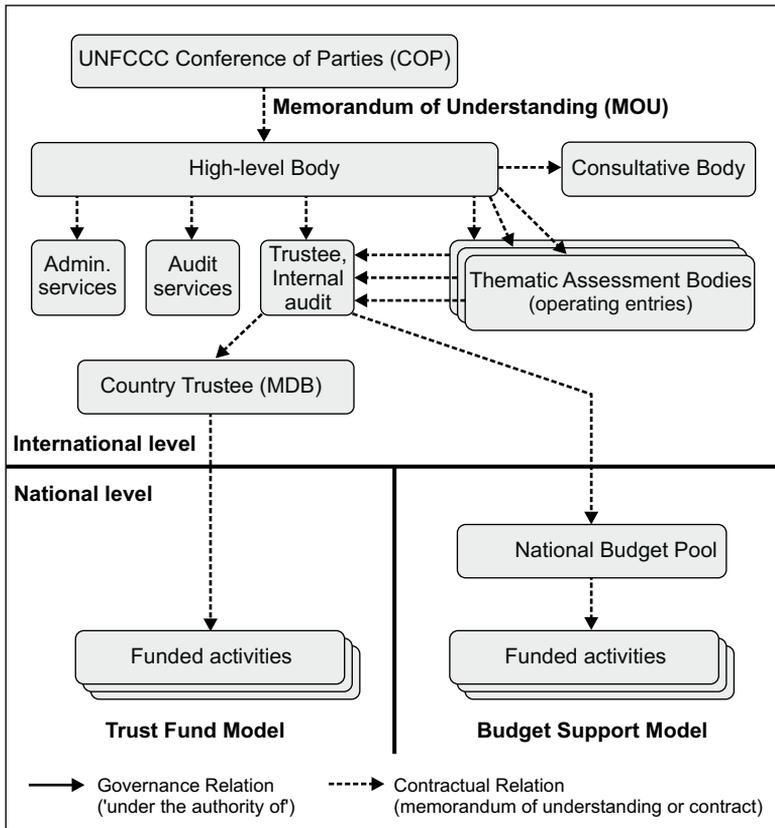


Figure 5.4: Institutional architecture of the Compact Model

UNFCCC) and execution (others)” and that “decision making should be devolved as much as possible”. A “*High-level Body* (HLB) decides on the gross allocation of resources between themes (e.g. mitigation and adaptation)” and is responsible for MRV of financial support. The HLB is guided by and accountable to the COP via a memorandum of understanding arrangement. Unfortunately, some important questions, such as who chooses the members of the HLB and how the HLB relates to the Trust Fund Committees of the World Bank CIFs, are not addressed in the discussion paper.

Thematic Assessment Bodies (TABs) are meant to develop National Allocation Frameworks based on factors such as “capacity to absorb financing, resources available from other sources, need”, which, once approved by the HLB, will determine the thematic country finance released by the TABs. The TABs are to be existing operating entities, and are to take the key disbursement decisions. The HLB has no say in the disbursement decisions of the TABs. As they are meant to be existing entities, it would again be useful to know who these are and, given that they are meant to be staffed by experts appointed through open competition, the rationale for housing these expert

groups in different existing organisations. Unfortunately, the discussion paper does not provide explicit answers to these questions, but it does note that “the current debate in the UNFCCC about the future institutional arrangements for climate finance revolves around the issue of control”, that “Contributors and recipients each have their own ideas about the appropriate institutional solutions to support their vision” and that “we need to find the middle ground and develop a new delivery model that is capable of operating at scale”.

The European Commission Proposal

The recent Communication of the European Commission is not explicitly about the financial mechanism, but it does not exclude the possibility of an institutional architecture and governance for a financial regime. As the Communication notes, the international financial architecture to support efforts to tackle climate change must follow principles of sound governance, maximising effectiveness, adequacy, efficiency, equity, accountability, coherence and predictability. In terms of public financial contributions, it should be comparable and be based on the polluter-pays principle as well as each country’s economic capability.

In relation to the governance of international financial flows for climate change, the communication notes that “as the sources of funding for adaptation and mitigation are likely to be multiple, *coordination and cooperation will need to be improved. A high-level forum* on international climate finance should bring together key decision-makers from the public and private sectors and international financial institutions. It would regularly review funding availability and expenditure and provide recommendations for improvements . . .”

Also, the Communication suggests a centralised governance structure at the UN level in order to organise the auctioning process, to set spending priorities and to channel the funds for mitigation and adaptation. However, might be seen as a drawback²⁹ of the international auctioning of emission permits (the “Norwegian proposal”). It is contrasted with the advantages of annual financial commitments by developed countries – with increasing contributions over time by developing countries in line with their financial capability – under which countries could raise financial contributions individually and spend them in a decentralised manner using all the existing bilateral and multilateral channels.

The Swiss Proposal

The Swiss Proposal suggests a global carbon tax to cope with the adaptation financing gap. The revenue for the Swiss Proposal is to be raised through a uniform global carbon tax of USD 2/tonne of carbon dioxide (CO₂) on all fossil fuel emissions, with a basic tax exemption of 1.5 tonnes of CO₂ per inhabitant. It introduces a per capita-

29 The paragraph begins by listing predictability and decentralized spending as advantages of assessed contributions, with compliance monitoring as a potential problem. Turning to the Norwegian proposal, the paragraph argues that it would not necessarily leading to predictable financial flows, and that it would require a centralised governance structure.

based basic tax allowance, which de facto means a differentiated tax rate between countries/regions. The collection of tax is to be carried out by the appropriate domestic agencies.

The disbursement of the revenue is to be partly domestic through *National Climate Change Funds*, and partly multilateral into a *Multilateral Adaptation Fund* (MAF). According to the Proposal, the function of the MAF would initially be taken on by the Kyoto Protocol Adaptation Fund until such a time as a significant number of countries have joined the scheme (Schwank and Mauch 2008), at which point the function is to be taken over by a new international institution, complementary to the Adaptation Fund because the remit of the Adaptation Fund is taken to be solely to operate in a project mode (Schwank and Mauch 2008). The funding is to be spent on two different themes, or Pillars: the Prevention Pillar (Climate change impact and risk reduction) and the Insurance Pillar (Climate impact response: relief, rehabilitation and recovery).

The Mexican Proposal

The Mexican Multilateral Climate Change Fund (MCCF) is designed for predictably sized funds, with contributions from developed and some developing countries to expand global mitigation efforts. It also envisages an adaptation levy on its disbursements, which would be destined for the Adaptation Fund.

According to the proposal, the amount in the MCCF must be predictable and scaleable, thereby transcending both the ODA model and simple voluntary contributions for specific ends. This predictability will result from objective and equitable criteria negotiated multilaterally to determine national contributions as functions of indicators such as greenhouse gas emissions, population and ability to pay.

In other words, industrialised countries are meant to be bound by contribution commitments, the relative share of which is to be determined by a Responsibility-and-Capability (R&C) indicator. The Least Developed Countries (LDCs) are expected to have a certain quota of the revenue at their disposal from the outset, without being expected to contribute. However, other “emerging” developing country economies – presumably defined in terms of the R&C index – will be expected to provide some contributions, against the insurance that they would then have the right to access amounts substantially larger than their own contributions. All contributing nations, whether developed or developing, will participate in the governance structure that will be established for the MCCF – a structure that will also be open to representatives of all beneficiaries.

The Norwegian Proposal

The Norwegian proposal provides an option of extending the 2 per cent adaptation levy to international emissions trading, which would not fall foul of either objections with regard to market interference or domestic revenue problems. The proposal suggests that at the international level, a small portion of permits could be withheld from national quota allocations and auctioned by the appropriate international institution. The resulting revenue could then be placed in a fund to be used for adaptation actions

or other specified purposes such as technology development (UNFCCC 2009:50). The proposal calls for allocation of the country Assigned Amounts (AAs). To be a truly international levy, the assigned amount units (AAUs) could be pooled in a holding account at the International Transaction Log prior to issuance of the (appropriately reduced) AAs to the country registries to be monetised by the Adaptation Fund – like the CERs collected through the Clean Development Mechanism (CDM) levy which is kept in a holding account of the CDM registry. Assuming the level of such an international international emissions trading issuance levy would mirror the 2 per cent of the CDM adaptation levy, the annual revenue at current prices would be in the region of USD 14 billion.³⁰

5.4 Discussion

The many billions of US dollars annually that will be needed, and hopefully forthcoming, to fund adaptation and other climate change-related activities in developing countries introduces structural issues which simply do not arise at the current relatively low level of funding. In particular, one has to look at two *design dimensions*: whether the financial regime should be *retained or devolved*, and whether it should be *fragmented or consolidated*. The former refers to the question of whether decision-making on funding particular concrete activities (projects and programmes, etc.) is retained outside the recipient country, or whether it is devolved to in-country entities. The difference between fragmented and consolidated funding is, in essence, whether all financing is to fund concrete activities, or whether it consists of contributions to consolidated funds.

Figure 5.5 illustrates two extreme cases: a completely fragmented and retained regime and a completely devolved and consolidated one. Naturally, there are many “shades of grey” along either dimension and which combination would be optimal is not self-evident, which is why there is a need to have a closer look at the two dimensions.

Retained or devolved

Should decisions on funding concrete activities be retained or devolved in line with the subsidiarity principle? There are a number of factors to be taken into account when discussing this question. Historically, the majority of public sector-type funding for climate change activities has been carried out under the “retained” model, with projects and programmes being assessed by donor agencies or multilateral funds in combination with multilateral implementing agencies. However, there has also been a trend towards “devolved” models for a variety of reasons. First, it was recognised – particularly in the context of adaptation finance – that a purely project-based approach would not be effective, which has led to increased demands for the “mainstreaming” of funding and the use of “budget support”, both of which require devolution of funding decisions to the involved in-country agencies and ministries. This trend has manifested itself in both bilateral and multilateral funding. The Kyoto Protocol Adaptation Fund has recently

30 According to WRI's CAIT, 5.2% of 1990 Annex I CO₂ emissions = 17.2GtCO₂, 2% of which sold at the current EUA price of €25[USD 40]/tCO₂ would bring in revenues of around USD 14bn.

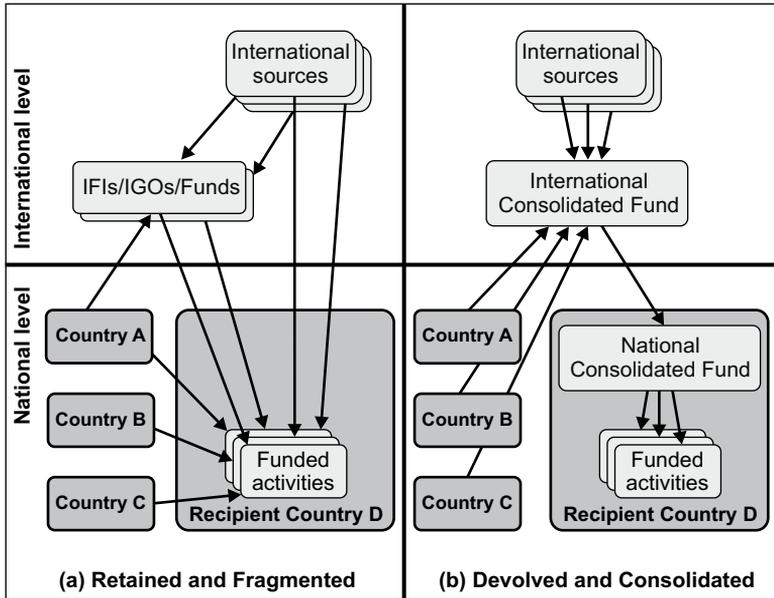


Figure 5.5: Different finance regimes

introduced the idea of dedicated national implementing agencies for its funding. The deliberations that led to this idea highlighted a number of the advantages of devolution. Having a national implementing entity resolves one of the issues that has been a core problem for the current system of retained multilateral funding: that of *direct access*, that is, the requirement to go through multilateral implementing agencies to access these funds. Devolution also ensures that the funding is *country-led* or *demand driven*, which again has been a constant concern – particularly in developing countries.

Finally, there is the issue of *efficiency* and of transaction cost-effectiveness. A rigorous comparison of transaction costs per unit of funding processed between a devolved and a retained funding model is obviously not possible without much more operational detail. However, given the differences in labour costs between the developing host countries and developed countries that would be involved in the retained approach – not to speak of the UN level, with its joint-maximum salaries – it stands to reason that it would be more efficient, at least in terms of labour costs, to employ as many of the people as possible that are needed to administer the funding in the respective host countries.

In short, devolution of funding decisions to in-country institutions makes sense not only in the light of the level of funding that will be required, but also because it provides natural solutions to a number of demands that have been made by developed and developing countries on how international climate change funding should be organised.

Fragmented or consolidated

Should public sector-type international climate change finance be *fragmented* (decentralised) or *consolidated* (centrally managed); and if consolidated – by which body?

Views on central management have been known to be conditional on who one has in mind to do the managing. For example, some who were opposed to creating a new operational entity for the Adaptation Fund on the grounds that institutional duplication should be avoided, quickly converted to the “let a thousand institutions bloom” persuasion after the Adaptation Fund Board was established. Nonetheless, the issue of whether public sector-type climate change finance should be centrally handled goes beyond the question of who precisely would be handling it.

No one – to our knowledge – has yet proposed that *all* international public sector funding for climate change *must* be centrally collected and disbursed. Even the controversial stricture in the G77 finance submission regarding funding outside the UNFCCC does not preclude anyone from financing outside this framework. It merely states that such payments are not to be counted towards UNFCCC commitments.³¹

To discuss the merits or demerits of consolidated funding in this context, one has to consider what the alternatives would be. The favourite alternative appears to be the model of ODA disbursement, be it directly through bilateral payments or through multilateral organisations. For example, it has been suggested to us in conversation that countries eligible for funding would prepare national climate change plans which – after COP approval – they could submit for funding to those countries with funding commitments. The problems with this suggestion become self-evident if it is applied to some domestic public disbursement contexts. For example, in the context of providing state pensions, the suggested disbursement model would be tantamount to the government asking pensioners to formulate a personal pension plan, which – following government approval – they could then take to the factory gate and submit to the workforce for financing. Or, to use another analogy, it is as if governments – having approved spending plans put together by hospitals – then asked these to collect the funding directly from the private sector.³²

31 Any funding pledged outside of the UNFCCC shall not be regarded as the fulfilment of commitments by developed countries under article 4.3 of the Convention, or their commitments for measurable, reportable and verifiable means of implementation, that is, finance, technology and capacity-building, in terms of paragraph 1.b (ii) of the Bali Action Plan (FCCC/AWGLCA/2008/MISC.2/Add.1:p).

32 The pension/hospital analogy also highlights the flip-side of the situation, namely the problems which someone with an obligation to pay may have in finding eligible recipients. Having a consolidated fund relieves individual tax-payers of the problem of having to find eligible recipients. Donor agencies have been facing the problem of having to spend more and more money with fewer and fewer staff, and it is difficult to see how they could cope with finding eligible activities in developing countries for the sort of amounts expected to be part of their country commitments.

One of the main shortcomings of fragmentation in this context lies in ensuring a fair distribution of inadequate funds. A number of reasons, not least the practice of using bilateral funding to “leverage political aims”,³³ make it unlikely that the aim of providing all eligible recipients with a fair share could be achieved in the absence of consolidated management of these limited funds.

As is implicitly acknowledged in the European Commission Communication, which favours a decentralised approach, another serious problem of fragmented financing is that it has proved to be very difficult to track and verify transactions – even if this is carried out as part of a political commitment. This has proved highly detrimental to the international climate change regime. The failure to deliver on funding promises and questionable reporting practices have been among the main causes for the regrettable erosion of trust by developing countries in the developed world.³⁴ In the context of financial commitments this also means that it is difficult to see how compliance could be monitored in such a fragmented funding model.

The decentralised model of fragmented financing thus has significant flaws and it stands to reason that following national “best fiscal practice”, the majority of this funding should be managed centrally through a single budget fund – similar to the consolidated revenue funds of the United Kingdom and other Commonwealth countries. The next question is therefore: Who should run such a consolidated international climate change fund? The Adaptation Fund negotiations and subsequent developments have demonstrated that none of the existing candidates would at present be able to muster the necessary level of political acceptance among recipient countries. To be clear, while there will be room and even need for other actors such as IFIs and United Nations organisations in climate change finance, capacity-building and execution under this proposal – particularly at the national level, the main flow of public sector finance should flow through the financial mechanism of the Convention – subject to the proposed reforms – in order to ensure that everyone who is entitled to receive climate change funding gets their fair share, and everyone who has an obligation to provide the funding pays their fair share.

5.5 Summary and conclusions

Early proposals, such as those of Mexico, Norway, and Switzerland, tended to focus on revenue raising rather than governance and institutional architecture. However, all of them made some explicit or implicit assumptions with regard to the above-mentioned two key design dimensions. For example, the very fact that the Norwegian proposal relies on an international auctioning of AAUs implies – as mentioned in the European

³³ For more on this see e.g. Kuziemko and Werker (2006: 905–930) and Dreher, Nunnenkamp and Thiele, (2008: 139–164).

³⁴ Indeed, if some of the practices used to report on compliance were used in filing domestic tax returns, it would be difficult to avoid charges of avoidance if not evasion.

Commission Communication – some consolidation/centralisation, if only because the revenue from these auctions will have to be put somewhere.

Both the Mexican and the Swiss Proposals envisage an international fund to be established, albeit for different spending purposes. The Swiss proposal envisages a *Multilateral Adaptation Fund*, whereas the *Mexican Multilateral Climate Change Fund* is for the purpose of mitigation, with an adaptation levy on funding. In other words, both embrace a consolidated model, albeit not across thematic boundaries. The same appears to be true of the G77+China proposal, at least for the option which includes a number of thematic funds each with a designated trustee. However, it leaves open an alternative in terms of “funding windows”, which was duly picked up and reflected in the Reformed Financial Mechanism, which, like the Compact Model, relies on a single consolidated fund to manage its revenue.

At the other end of the fragmentation spectrum is the proposal by the European Commission which – apart from some unavoidable international consolidation in the context of revenue derived from the Norwegian proposal – seems to favour the fragmented financing model, albeit in a coordinated manner. What is clear is that in this, the European Commission proposal stands alone among the main proposals that have been put forward. In all the other examples the question is not about consolidation, but how much is needed to ensure a functioning financing system.

The devolution of funding decisions to the national level has been most strongly espoused by the RFM operationalisation of the G77+China proposal, the Compact Model and the Swiss Model. Being mostly concerned with raising revenues, neither the Mexican nor the Norwegian proposals refer to this issue. Given its reliance on coordinating existing financing streams, the European Commission proposal also appears to be at the other end of the devolution spectrum.

In the light of the structural similarities between the Compact Model and the RFM operationalisation of the G77+China model, and the fact that most of the early proposals were not about climate finance in general, we can conclude that there are, in principle, two options on the table. On the one hand, the RFM model, with a consolidated architecture and devolved governance, and, on the other, the European Commission model, a largely status quo model of fragmented financing and funder retained decision-making. There is little doubt that, of the two, only the former has a chance of becoming a mechanism that is fit for purpose.

6 SOURCES OF FINANCE

KEY MESSAGES

- The adaptation funding gap will not be adequately addressed by the funding that is currently available, or in the short term.
- To generate new and additional financial resources under a Copenhagen Agreed Outcome, Parties could decide either to specify a level of finance to be provided within a certain timeframe together with guidelines for accounting, or to specify the fundraising instruments to be used that in and of themselves would generate new and additional funds.
- Based on assessment against criteria stated within the Bali Action Plan (BAP) and the broader United Nations Framework Convention on Climate Change (UNFCCC) context, the following options for funding sources can be considered:
 - Establish nationally assessed contributions as the principal long-term revenue source for adaptation: start with low but growing commitments based on the principles of responsibility and capacity. Annex I countries should themselves determine whether to fund their contributions through transfers from the general budget or through earmarked revenues from market-based instruments. Nationally assessed contributions could also be combined with an international revenue stream directly under the authority of the Conference of the Parties to the UNFCCC, based on any of the instruments below.
 - Extend the Clean Development Mechanism (CDM) levy to Joint Implementation (JI), phase out the levy over time, and examine an offset issuance certificate auction as a potential substitute;
 - Seek to set aside the allowance value for adaptation purposes in all domestic and regional emission trading programmes;
 - Utilise the hold back of international allowances (AAUs) as a back-stop should parties not provide adequate or timely adaptation funding through other means in keeping with their assessed contribution levels; and
 - Pursue implementation of a passenger air travel levy as a complementary source of adaptation funding.

6.1 Introduction

As is stated above in chapter 1, this report focuses on the delivery and governance stages of adaptation finance rather than possible sources and generation of new finance. Several reports and analyses have already covered these topics in some depth and technical detail (Müller 2008, Porter *et al.* 2008, Harmeling *et al.* 2009, Pendleton and Retallack 2009, and UNFCCC 2009a). However, in order to provide a complete picture of adaptation finance the finance generation stage

obviously needs to be included. This chapter addresses two questions that are key to a Copenhagen Agreed Outcome: the level of financing that is likely to be needed, and how this compares with existing available funds; and the options for generating new and additional finance – and how they compare.

The chapter provides a brief overview of the projected adaptation funding gap and discusses how possible levels of financing for a Copenhagen Agreed Outcome could be derived. It identifies the options proposed by Parties and others on how to generate finance, as well as criteria for assessing them. A key criterion is the need to provide new and additional funds, as is further elaborated in chapter 8. We have chosen to conduct extended analysis of carbon market options, in particular by constructing scenarios on how predictable, adequate and sustainable such flows could be given the uncertain nature of the carbon market.

6.2 The adaptation funding gap and existing funding commitments

Best estimates of the adaptation funding gap are provided in table 6.1 below. Starting with the cost side, chapter 2 examined the status of costing exercises on adaptation to date (see section 2.3). It was found that published *global adaptation cost estimates* for developing countries have indicated a range of USD 9 to 109 billion per year. Although some ongoing studies using bottom-up rather than top-down valuation techniques may provide somewhat more reliable estimates, the high level of uncertainty around adaptation costing means that most commentators in this debate now talk in terms *tens of billions of USD per year* rather than more precise figures. However, there is a considerable gap between “urgent” needs as identified in NAPAs and estimates of adaptation costs over the longer term, with the former costed at USD 1.5 billion (cumulative cost). As is discussed in chapter 3, we do not know about the timing of this growth in needs, or needs of financing, that is, whether NAPA-identified needs are underestimated, and whether upscaled finance will be needed in the immediate, short or medium to long term.

Available funds – in terms of the recent past, and current and near future availability – come nowhere near the global cost estimates. It is reported in chapters 2 and 4 that the two operational UNFCCC funds (the Least Developed Countries Fund and the Special Climate Change Fund) and the Global Environment Facility Strategic Priority “Piloting an Operational Approach to Adaptation” had together disbursed USD 183 million over the period 2001–2008. According to UNFCCC (2009a), by including existing pledges this sum may have risen to USD 313 million as of 21 October 2008. Contributions to the not yet operational Adaptation Fund have so far amounted to USD 3.4 million (AFB/B.5/7). According to comments made by the World Bank at the fifth Adaptation Fund board meeting in March 2009, monetisation of certified emission reductions (CERs) is expected to add around USD 15 million to the Adaptation Fund in the next few months. Projections

suggest that over the course of 2008–2012, CER monetisation could provide the Adaptation Fund with USD 400–1,500 million (UNFCCC 2009a).

While we have found no figures on possible private sector flows for adaptation that have taken place to date, there are now some figures regarding available ODA funds. Since there is no international or donor-specific tracking system for adaptation expenses, these estimates are uncertain and indicative only. First, looking at funds provided to date, it has been estimated by Roberts *et al.* (2008) that around USD 610 million of bilateral and multilateral ODA was spent on projects benefiting adaptation over the period 2000–2006, that is, approximately USD 87 million per year. This corresponds to 1/34th of the sum spent on mitigation over the same period. Second, it has been estimated that the European Commission, as an individual donor, spent about USD 259 million on adaptation over the period 2001–2007, that is, approximately USD 43 million per year (Behrens 2008).

Considering ODA pledges for adaptation purposes in the near future, chapter 4 noted a range of new bilateral and multilateral funds announced in the past year. These include at least two multilateral funds (the World Bank's Pilot Programme for Climate Resilience, PPCR and the Global Facility for Disaster Risk Reduction and Recovery, GFDRR) and four bilateral funds (the Cool Earth Partnership, Japan; the International Climate Initiative, Germany; the Global Climate Change Alliance, European Commission; and the UNDP-Spain Millennium Development Goals Achievement Fund). UNFCCC (2009a) estimates that over the period 2008–2012³⁵ these funds will together provide around USD 1,557 million, that is, approximately USD 28 million per year.³⁶

Table 6.1 does not have the most reliable data to build on, but it clearly shows that available funds, even including the Adaptation Fund, only marginally address the estimated costs of adaptation in the developing world. It suggests that while UNFCCC and ODA funding combined may provide in the order of USD one billion per year, given current flows, an adaptation funding gap in the order of tens of billions annually could still remain.

35 Note that the time periods for announced expenditure for different funds vary within the overall time-frame of 2008–2012.

36 For updated information about disbursement from individual bilateral and multilateral funds see <http://www.climatefundsupdate.org/listing>

Table 6.1: Current adaptation funding gap, million USD

	Cumulative (time period)	Nominal per year
PREDICTED COSTS		
Global adaptation cost estimates for developing countries		9,000–109,000
Total cost of identified NAPA projects, in 39 NAPAs	1,500 (to date)	
AVAILABLE FUNDING		
Disbursed to date:		
UNFCCC funds	183 (2001–2008)	23
ODA funds	610 (2000–2006)	43
Private sector and civil society funding	?	?
Pledged/announced for the near future:		
UNFCCC funds (including Adaptation Fund) ^a	530–1,630 (2008–2012)	106–326
ODA funds	1,557 (2008–2012)	28
Private sector and civil society funding	?	?
FUNDING GAP		
(Predicted costs – available funding)		Still tens of billions

^a*These figures are based on the difference between disbursed (183 million) and disbursed+pledged (313 million) funds as regards the existing UNFCCC funds, added to the projections made for the Adaptation Fund.*

6.3 Levels of financing under a Copenhagen Agreed Outcome

Considering this divergence, even in orders of magnitude, between the estimated cost and the finance currently available, the strong positions taken by developing country Parties in requiring new and additional finance, in the form of measurable assessed contributions, as well as indications – either directly through targets or indirectly through clearly identified mechanisms for generating finance – of the level of financing to be provided in a Copenhagen Agreed Outcome are to be expected. This is even more the case given the general *trust deficit* discussed in chapter 8 and the specific deficit in terms of failing to honour the 2001 Bonn Declaration – which was itself the result of a failed attempt to induce a commitment by all Annex I Parties to provide new and additional funding at the level of USD 1 billion by 2005 at the latest. Some Annex I Parties rejected this proposal outright, but 21 signatories (the EU-15 member states, the EU, and Canada, Iceland, New Zealand, Norway and Switzerland) committed to an alternative at COP 6(bis) in Bonn on 23 July 2001. The Declaration stated that:

We reaffirm our strong political commitment to climate change funding for developing countries. We are prepared to contribute USD 410 million, which is EUR 450 million, per year by 2005 with this level to be reviewed in 2008. Funding to be counted can include: contributions to GEF climate change related activities; bilateral and multilateral funding, additional to current levels; funding for the special climate change fund, the Kyoto Protocol Adaptation Fund and the LDC fund; and funding deriving from the share of proceeds of the Clean Development Mechanism, following entry into force of the Kyoto Protocol.³⁷

Considering the levels of funding provided through UNFCCC and ODA as estimated above, it is apparent that the commitment to provide USD 410 million per year by 2005 has not been met by the signatories. This is also the conclusion of analysis prepared by Pallemmaerts and Armstrong (2009) of the ODA from EU member states that could be counted towards this target. The target has almost certainly not been met, and the authors note that the EU has made no effort to report on the Bonn Declaration with verifiable and reliable figures.

The adaptation funding gap and the trust deficit raise the question whether a *level of finance* to be provided or a *funding target* should be set in a Copenhagen Agreed Outcome, with options to continually revise such a figure. This question can be broken down into two sub-questions:

- How much finance could or should be provided for adaptation in developing countries as a whole, that is, including UNFCCC funding, ODA funds, private sector funds and civil society funds?
- How much finance could or should be provided within and regulated by the UNFCCC regime?

Starting with the non-UNFCCC financial flows for adaptation, their main disadvantages from a UNFCCC and BAP perspective are that they are not predictable and that it can be difficult to demonstrate how they are new and additional – especially when there is no relationship to an Annex I country general budget, such as for private sector and civil society funds. Private sector finance, which is discussed in-depth in chapter 7, could potentially play an important role in shifting investments towards adaptation by climate-proofing foreign direct investment, and optimising adaptation investments, for example, by providing front-end loading opportunities and by responding to market opportunities for providing adaptation goods, services and technology. However, whether and how it could be a source of new finance remains very uncertain, and several of those potential functions are dependent on public sector commitments to provide funds. Civil society funds, which are briefly reviewed in chapter 4, are currently an unknown and can also be expected to be highly unreliable.

³⁷ UNFCCC, Statements made in connection with the approval of the Bonn Agreements on the implementation of the Buenos Aires Plan of Action (decision 5/CP.6), Note by the secretariat, Doc. FCCC/CP/2001/MISC.4, 23 October 2001, pp. 6–7.

Finally, ODA has and will continue to play a significant role in the near future, and is considered by many Annex I Parties to be a core component of any future financing arrangement. However, its predictability is reduced by the fact that the total level provided is not subject to a legally binding target, but only a moral obligation in the form of the Monterrey target to provide 0.7 per cent of gross national product (GNP). Currently, the average provision of ODA from Organisation for European Co-operation and Development (OECD) Development Assistance Committee countries is only 0.3 per cent. Especially in times of economic recession, many are concerned that ODA budgets are among the first to be slashed when governments cut programmes. Furthermore, as is described above and in chapter 4, there are currently no systems for tracking adaptation expenditure within ODA. This means that it would be difficult to monitor whether ODA flows for adaptation are “new and additional”.

For these reasons, and due to the general equity rationale behind complying with article 4.3 of the UNFCCC (see chapter 2 and 8), it appears that directly or indirectly specifying a level of finance to be provided within the UNFCCC regime is the only plausible way to ensure financial flows for adaptation. However, as is concluded in chapter 4, this does not preclude the complementarity of and reliance on multiple financial flows at the stage of delivering finance.

Given the uncertainty of adaptation costs noted above, however, it would still be difficult to set a level within a Copenhagen Agreed Outcome. The African Group, through Algeria, has recently stated that by 2020 the scale of financial flows to support adaptation in developing countries must be at least USD 67 billion per year, based on the UNFCCC global cost assessment. Other Parties have avoided proposing absolute and quantitative targets. Proposing such a level is a political and normative judgment, involving not only equity and fairness issues but also risk preference and application of the precautionary principle under uncertainty. Therefore, we note here only the two principal ways that a level could be defined in a Copenhagen Agreed Outcome:

- An explicit, absolute level could be defined based on available information on costs and needs and/or estimates of how much funding could realistically be raised. A dilemma with this approach would be to set a level which is sensitive to new evidence of adaptation costs, while at the same time providing long-term stability and predictability for both contributors and beneficiaries. A variation of this approach is to set a benchmark rather than an absolute level, such as the G77+China proposal to provide 0.5–1 per cent of Annex I countries’ GNP. Bangladesh has proposed that ODA and additional climate funding under the UNFCCC should together be no less than 1.5% of the GNI of individual Annex I Parties.
- Particular instruments for generating funds for the relevant UNFCCC funds could be explicitly identified, which would be, with more or less uncertainty, associated with a certain level of financing.

If a total level is explicitly or implicitly set and nationally assessed contributions are to be determined, financial obligations need to be allocated among Annex I Parties in a way that is measurable, reportable and verifiable as well as defensible from a methodological point of view. Pendleton and Retallack (2009) suggests that the Greenhouse Development Rights framework,³⁸ developed by the Stockholm Environment Institute and EcoEquity, could be used. This framework operationalises and quantifies the concepts of “responsibility” (as cumulative emissions per capita since 1990) and “capability” Purchasing Power Parity-adjusted GDP per capita above an income threshold of USD 7,500). Pendleton and Retallack (2009) proposes that this methodology could be applied to different funding options: a global fund in line with the Mexican proposal; a fund corresponding to article 4.3; or hold-back of AAU for auctioning in line with the Norwegian proposal.

6.4 Proposals for new sources of adaptation finance

Regardless of which approach is taken to the setting – or not – of a total level of finance to be provided under a Copenhagen Agreed Outcome, new and additional financial sources would have to be raised in some way. According to the BAP, they should be raised in an adequate, predictable and sustainable way. Considering the above discussion on ODA and private and civil society sector flows, the fact remains that UNFCCC-regulated flows could be composed of national assessed contributions, carbon market options – or both. Carbon market options could be channelled via a country’s general budget or raised on the international market and flow directly to the relevant UNFCCC funds. For example, Colombia proposes in its latest Party submission that financing for adaptation should be provided as: 2 per cent of each developed country’s GDP; and a 2 per cent share of the proceeds from CDM project activities as well as a 4 per cent share of proceeds from joint implementation activities and emissions trading.

Regarding nationally assessed contributions based on transfers from domestic Annex I country budgets, the technical and political difficulties involved have been referred to as the “domestic revenue problem” (Müller 2008). The current economic downturn has not made this challenge any easier. Concern over mounting budget deficits and competing commitments to short-term stimulus investment have only served to exacerbate the already daunting “domestic revenue problem”, which stands in the way of proposals to fund adaptation directly from national budgets through assessed contributions. For this and other reasons, several analysts argue that the most promising options for delivering adaptation finance involve levies on international transport or internationally issued carbon commodities (Harmeling *et al.* 2009, Müller 2008). These potential sources of adaptation funding have the advantages of bypassing national budgets, delivering funds in the tens of billions of US dollars per year, and embodying key equity principles such as “the polluter pays” and “capacity-to-pay”. At the same time, some of these sources would subject adaptation finance to the volatility of carbon markets and the large uncertainties related to the evolving scope and form

38 See <http://www.ecoequity.org/GDRs/>

of international climate policy, as well as to if and when countries join in international binding commitments and allowance issuance and trading.

This section briefly reviews several carbon and transport market options, assesses their potential scale and evaluates them in terms of five criteria:

- *appropriateness* of revenue sources in the light of competing demands and potential conflicts with achieving other goals (e.g. mitigation);
- *equity* in terms of funding sources reflecting differentiated historical responsibilities and capacities;
- *adequacy* of potential revenue streams in relation to estimated adaptation finance needs;
- *predictability* of revenue streams given the uncertainties related to the design and operation of markets, and mandatory vs. voluntary actions; and
- *feasibility* in terms of political acceptability and past negotiations.

We offer suggestions on how carbon and transport market options might fit in the overall framework for adaptation finance presented in this report.

Generating revenue from the CDM (and JI)

The Adaptation Fund established under the Kyoto Protocol is currently financed and supported by a 2 per cent hold back of Certified Emission Reductions (CERs) as they are issued through the (CDM). The value of the Adaptation Fund thus depends both on the success of CDM project implementation, registration and performance, which will determine the number of CERs issued and held back, and the demand for, and thus the price of, CERs at the time these set-aside CERs are sold into the market.

There are several proposals to continue or extend the CDM levy, including:

- continuing the levy (or “share of proceeds”) post-2012 (the EU);
- increasing the levy from its current 2 per cent to up to 5 per cent (Bangladesh and Pakistan);
- extension to JI (Colombia, LDCs).

There are other options for generating revenue from the sale of emission reduction credits that have been floated in other contexts, and may be worth further consideration given the explicit call for innovation in the BAP. These include:

- *A carbon bank or aggregator*: This option would involve the creation of a single carbon market aggregator or bank that purchases emission reductions from non-

Annex I countries closer to their actual incremental cost plus a profit margin, and sells them at expected or actual emission allowance prices (Project Catalyst 2009). A goal of this approach would be to capture the large economic rents that can arise from the difference between carbon prices and the cost of mitigation projects. Such rents have been most notable for industrial gas projects, which often cost less than USD 1 per tonne of CO₂ equivalent (tCO₂e) to implement yet generate CERs worth more than 10 times that level. Therefore, this option could apply to selected project types, such as non-CO₂ gas projects, and locations or to all those currently covered by the CDM.

- *Sale or auction of CER/ERU Issuance (or Surrender) Certificates:* Another approach that could accomplish a similar objective (rent capture) would be to place a limit on allowable emission reduction credits issued or surrendered during a given period, and then to auction these issuance or surrender certificates, or sell them at a fixed price.³⁹ In a well-functioning market, these certificates would be worth, roughly, the difference between the highest cost offset issued and the price of allowances. Analyses comparing the marginal abatement cost of emission reduction projects with expected allowance prices suggest that this price difference, and thus potential revenue stream, could be quite large.⁴⁰ A large price differential between offsets and allowances would require a limit on offsets that is well below potential offset supply.

Generating revenue for adaptation from the CDM and/or JI raises a number of issues related to our evaluation criteria:

- *Appropriateness:* Taxing CDM projects creates a (small) disincentive for activity that the Kyoto Protocol is designed to promote, that is, investments in lower-emitting technologies and practices that are intended to provide sustainable development benefits in developing countries, while helping to contain mitigation costs in countries with binding targets – or, some may contend, to enable deeper targets than might otherwise be possible. Conversely, the fact that adaptation funding depends on the volume of CERs issued may create an incentive for potential fund recipients to increase CDM activity and CER issuance. Alternatives to issuing credits for emission reductions, such as non-credited nationally appropriate mitigation actions (NAMAs) or domestic regulation coupled with mandatory technology transfer requirements (Lütken 2008), would have the perverse result of reducing adaptation funding. Proposals to enhance the environmental integrity or benefits of the CDM, such as

39 This concept was recently floated by California agency staff with respect to issuance of offsets for compliance with its state emissions limit, see <http://www.arb.ca.gov/cc/capandtrade/meetings/032309/march231presentation.pdf>

40 E.g. the US Environmental Protection Agency (2008) projected that under the Lieberman-Warner bill (S.2191) allowance prices in the US could be around USD 50/tCO₂e in 2020, with international offsets costing about USD 15/tCO₂e, assuming a limit on international offsets equal to about 600 million tCO₂e per year. If the offset limit is more generous, as in the current Waxman-Markey discussion bill, USEPA (2009 draft) shows that offset and allowance prices begin to converge as the limit is less constraining.

discounting CERs (Schneider 2008) or negative lists, would also have a similar outcome. The potential conflicts between adaptation funding and mitigation strategies suggest that levies on the CDM are not a very appropriate source of adaptation funding.

- *Equity*: A levy on CDM is ultimately paid for by Annex 1 governments or emitters through slightly higher offset and, possibly, higher allowance prices. However, as is noted above, such a levy also discourages activity intended to create sustainability benefits and technology transfer in developing countries.
- *Feasibility*: The CDM levy is an established mechanism for generating adaptation finance with an agreed governance structure, which is no small feat.
- *Adequacy*: The overall scale of funding generated is likely to remain well below EUR 1 billion per year by 2020, except under very optimistic assumptions regarding CER prices (over EUR 20/tCO₂e), the expansion of CDM or other crediting mechanisms (to over 1 billion tCO₂e issued per year), *and* an increase in the levy to 5 per cent. The range of estimates for 2012 and 2020 are illustrated in figures 6.1 and 6.2 and described further below.
- *Predictability*: The CDM levy is subject to very large uncertainties in offset activity and price.
- *Alternative approach (carbon bank or offset certificate auction)*: Either option could generate far greater funding than the current levy approach, potentially exceeding EUR 20 billion/year by 2020, as is shown in figure 6.2. However, both approaches face the challenge of maintaining incentives for project development in already high risk carbon finance markets. Furthermore, they would represent significant departures from policies under current consideration.
- *Alternative approach (extension to JI)*: Given the much smaller volume of JI compared with CDM activity, the amount of revenue generated is likely to be very small (less than EUR 0.1 billion per year by 2020). However, it is ironic that the creation of offset credits is taxed in developing countries but not in Annex 1 countries. For this reason, extension to JI makes sense even if the extra revenue is relatively small.

Figures 6.1 and 6.2 illustrate our high and low estimates for the revenue options discussed in this section (see also the additional data in annex II).⁴¹ Options that depend on carbon markets show very large variation from low to high estimates, particularly relative to the international air passenger levy and global carbon tax. The high

41 The carbon market estimates are based on a number of assumptions and prior estimates made by the UNFCCC (2008), USEPA (2008) and various modelling exercises and survey estimates summarized by Haites (2007). The IAPAL estimates are taken directly from the LDC Group (2009), while the international marine levy and global carbon tax estimates are taken directly from UNFCCC (2008).

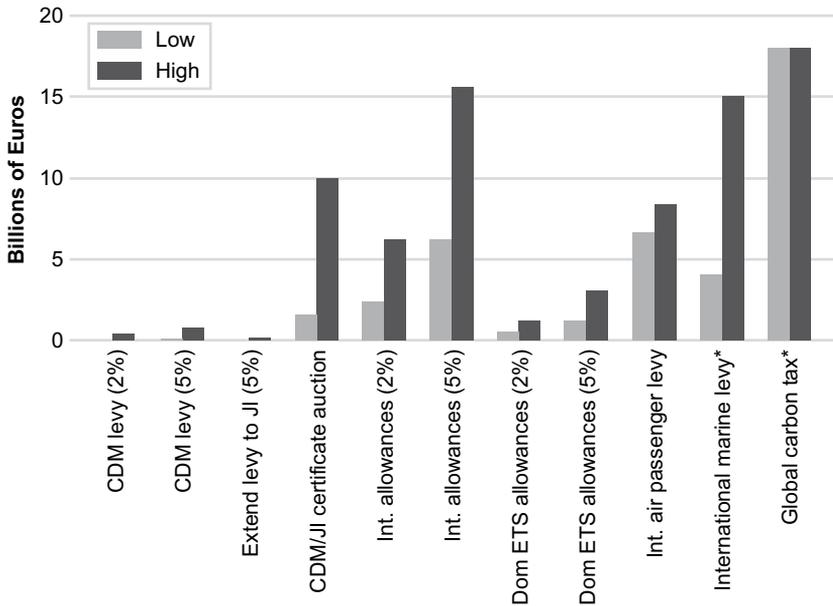


Figure 6.1: Range of estimated funding levels created by various revenue options, 2012

estimates shown in these figures assume international (and domestic Emission Trading Scheme, ETS) allowance prices of close to EUR 30/tCO₂e, similar to the peak values achieved by the European Union (EU) Emission Trading Scheme (ETS) in 2008. They also assume that the US and Australia join a post-Kyoto agreement and participate in both international and domestic allowance systems, much as the EU does today, and contribute to the growing demand for CDM and JI credits. The high estimates result in total CERs and ERUs issued at 10 times current levels by 2020 – over 3 billion CERs and ERUs annually.⁴² The low estimates assume a continuation of current levels of market activity, with no participation of the US or Australia in allowance or CDM markets, and allowance and CER prices slightly over EUR 10/tCO₂e.⁴³

Domestic ETS Allowance Value⁴⁴

Germany has floated the idea of setting aside a fraction of the allowances issued in domestic or regional emission trading schemes such as the EU ETS, and auctioning

42 For the high scenario, we assume that CERs and ERUs trade at a lower price than or a significant spread with allowance prices, such that they average about EUR 15/tCO₂e.

43 The allowance prices used here are taken directly from Haites (2007), whose work has served as a basis for estimates presented by the UNFCCC (2007, 2008).

44 Since several methods could be used to generate revenue from allowances – direct auction, sale at a fixed price or transfer to an international account for later sale or auction as appropriate – we use the

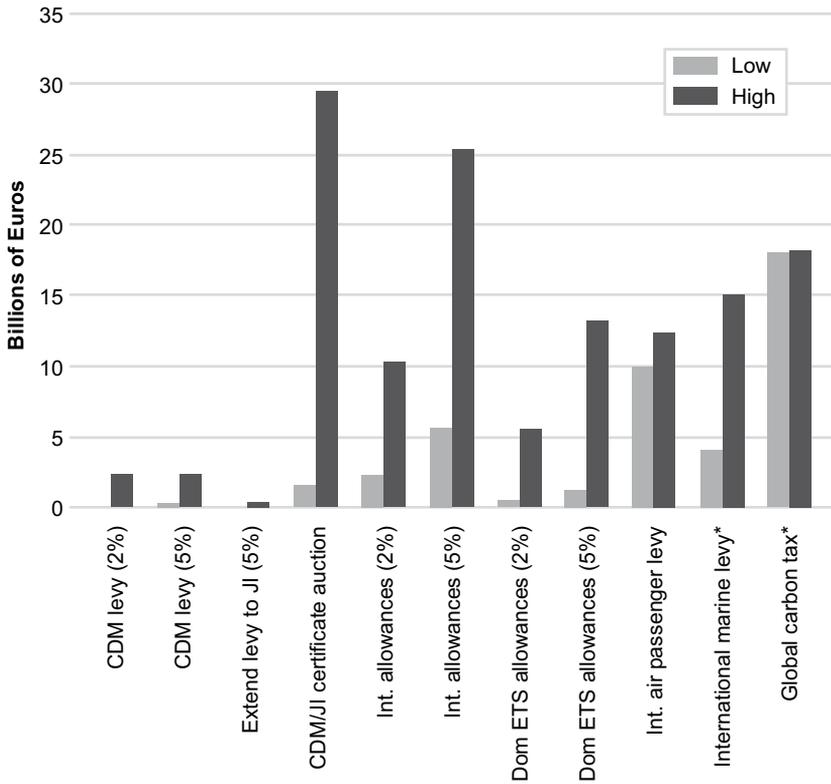


Figure 6.2: Range of estimated funding levels created by various revenue options, 2020

these allowances to generate revenue for adaptation purposes. Several legislative proposals in the US Congress have embodied the same concept. For instance, a principal discussion bill in 2008 (S.2191 or “Lieberman-Warner”) would have dedicated funds from auctioning emission allowances – 1 per cent in 2012 rising to 7 per cent in 2039 – to address climate change impacts in the “most vulnerable developing countries”.

- *Appropriateness*: Unlike a levy on CDM, and similar to other options discussed below, the set aside of allowances effectively taxes a “public bad” or externality (GHG emissions) rather than a public good (emission reduction projects). Like “sin taxes”, revenue streams depend on continuing this public bad; however, as the emissions cap tightens, the number of allowances will decline. Unless allowance prices increase at a rate faster than allowances decline, an outcome on which modelling analyses disagree,

more generic term “allowance value”.

adaptation revenues would drop over time instead of increasing to reflect growing adaptation funding needs. In addition, this option could create pressures to enact less stringent targets to the extent that somewhat less allowance value would then be available to compensate economically vulnerable emission sources or to use for other public purposes such as tax rebates or direct mitigation investment.

- *Equity*: The use of domestic ETS allowance value reflects historical responsibility and the polluter pays principles to the extent that “responsible” nations or regions elect to create ETSSs, that ETSSs are comprehensive in sectoral coverage,⁴⁵ and that nations elect to participate in an allowance set-aside process for international adaptation.
- *Adequacy*: As is illustrated in figures 6.1 and 6.2, we project that domestic ETS allowance value could provide as little as EUR 400–500 million annually (2 per cent set aside, EU only, allowance price EUR 11/tCO₂e) or as much as EUR 13 billion by 2020 (5 per cent set aside, most of Annex 1, more comprehensive ETS coverage and an allowance price EUR 28/tCO₂e).
- *Predictability*: While the volume of allowances issued is more predictable than the volume of offset credits issued (CERs), there are significant uncertainties regarding the fate and scope of ETSSs. Some of these uncertainties could be resolved in the next 12–18 months, if and as the US, Australia and other countries clarify their plans.
- *Feasibility*: The fact that nearly all major US legislative proposals have included an international adaptation programme funded through allowance set asides could be viewed as a positive sign. However, allowance value can also be viewed by politicians and constituencies as a domestic resource, and thus subject to the domestic resource problem noted above.

International Allowance Value

A way around the domestic revenue problem and incomplete coverage of domestic ETS would be to set aside allowances at the international level. Norway has proposed that an appropriate international body hold back a fraction of the AAUs of all parties, or tax their issuance. Harmeling *et al* (2009) note that withholding AAUs could also serve as a “backstop non-compliance option” should countries not generate sufficient funding for adaptation through other means.

- *Appropriateness*: Similar to the value of domestic/regional ETS allowances, this source of funding could decrease over time. Similarly, it could also lead parties to negotiate more generous targets.

45 E.g. the EU ETS covers only about half of EU emissions; US proposals would cover 80–90%.

- *Equity*: Equity principles would be reflected to the extent that countries that agree to binding targets are representative of global responsibility and capacity. By definition, non-Annex 1 countries would not contribute.
- *Adequacy*: As is illustrated in figures 6.1 and 6.2, we project that international allowance value could provide as little as EUR 2.2–2.5 billion annually (2 per cent set aside, current Kyoto parties only, value EUR 11/tCO₂e) or as much as EUR 25 billion annually by 2020 (5 per cent set aside, all Annex 1, value EUR 28/tCO₂e).
- *Predictability*: Uncertainties in total revenue would be similar in nature to the domestic/ regional ETS option above.
- *Feasibility*: While the domestic revenue problem could be limited by collecting and holding allowances, if these allowances were purchased directly by Annex 1 parties from national budgets in order to meet national commitments, the same concerns could arise. Alternatively, revenues for the purchase of these AAU could be generated through national/regional ETS auctions.

Levy on international aviation (passenger travel)

The Group of Least Developed Countries has proposed an international air passenger adaptation levy (IAPAL) as a means to generate revenues for adaptation. The LDC proposal recommends a levy set at USD 6 (EUR 4) per economy trip, and USD 62 (EUR 40) per business/first class trip. At this rate, the LDC group (2009) projects the levy would generate USD 8 billion (EUR 6.7 billion) to USD 10 billion (EUR 8.3 billion) per year in the short term.

The EU has suggested including aviation emissions in an emissions trading scheme and auctioning the corresponding allowances to generate revenue. This option would have some of the advantages of the IAPAL, such as, sourcing adaptation revenue from truly international and high emission activity, and a tax base with significant capacity to pay. However, it carries the uncertainties associated with international allowance actions, in particular, low predictability due to carbon price volatility.

- *Appropriateness*: The passenger levy approach does not appear to present any major conflicts with other objectives. In fact, it could be maintained even if emissions from international aviation were to be included in international agreements and in emission trading systems.
- *Equity*: The IAPAL proposal is strongly aligned with the polluter pays principle and high capacity to pay, although it does not directly reflect historical emissions.

- *Adequacy*: Assuming a continuation of historical growth in international passenger air travel of 5.1 per cent per year, the aviation levy could yield EUR 10–12 billion annually by 2020.
- *Predictability*: Revenues would be relatively predictable compared with other options, given an established levy rate and limited annual variation in international air travel.
- *Feasibility*: Directly taxing an international commodity does not involve national budgets. There is also a precedent for similar “solidarity levies” on international aviation; over a dozen countries have followed a French initiative to impose a per flight fee dedicated to fighting HIV/AIDS.

A global carbon tax⁴⁶

Switzerland has proposed a USD 2 per tCO₂ tax on fossil fuel emissions applicable on all countries, with a tax exemption of 1.5 tCO₂ per capita. The revenues raised would be split between mitigation, technology transfer and adaptation activities, with approximately USD 18 billion in annual funding directed to a Multilateral Adaptation Fund (UNFCCC 2009c: 44).

- *Appropriateness*: Like the other options discussed above apart from levies on the CDM, the carbon tax penalises a public bad or externality rather than a public good.
- *Equity*: The Swiss carbon tax proposal sources only half its funding from Annex 1 countries; their historical responsibilities would suggest more significant contributions (Muller 2008). While the proposal contains an exemption up to 1.5 tCO₂/capita, it does not necessarily reflect capacity to pay at a national level. Per capita emissions reflect resource endowments (e.g. hydro availability) and climate, and thus do not correlate closely with income.
- *Adequacy*: As is noted above, the Swiss proposal would raise about USD 18 billion per year for a dedicated adaptation fund, with an additional USD 30 billion potentially available for added adaptation activities through a National Climate Change Fund.
- *Predictability*: A carbon tax would be the most predictable of all options considered in this section, given the limited annual variation in CO₂ emissions.
- *Feasibility*: A carbon tax faces domestic revenue problems similar to nationally assessed contributions.

46 See <http://unfccc.int/resource/docs/2008/awglca3/eng/misc02a01.pdf>

Summary of assessment against criteria

Table 6.2 summarises our ratings of each revenue option against the individual criteria. These ratings reflect our subjective assessment of the points noted above; adequacy is rated on the basis of the average of high and low revenue estimates for 2020: EUR 0.1 to EUR 1 billion/year (low), EUR 1 to EUR 10 billion/year (medium) and over EUR 10 billion/year (high).

Table 6.2: Summary comparison of options against criteria

		Appropriate-ness	Equity	Adequacy	Predicta-bility	Feasi-bility
Levy on offset issuance (CDM and JI)	Continuation/ increase of current levy	Low	Medium	Low	Low	High
	Extension to JI	Medium	High	Very Low	Low	Medium
	Carbon bank/auction of issuance rights	Medium	Medium	High	Low	Low
International allowance value		Medium	Medium	High	Low	Medium
Domestic ETS allowance value		Medium	Medium	Medium	Low	Medium
International aviation levy		High	High	High	High	Medium
International marine levy		Medium	Medium	Medium	Medium	Medium
Global carbon tax		Medium	Medium	High	High	Low

As is shown in table 6.2, the international air passenger levy fares best against these criteria. It provides a source of revenue grounded in equity principles with significant, predictable and increasing revenue flows over time as well as limited conflicts with other climate policy objectives. However, its political feasibility is unclear. The global carbon tax rates highly, but the political feasibility of global taxation is dubious. Of the carbon market options, the use of international allowance values may present the most attractive combination of scale, or adequacy, and feasibility.

Carbon market options, whether in the form of the current CDM levy or future use of international allowance value, may not be predictable or reliable sources of adaptation funding, but may be necessary at least in the short term. These options are currently plagued with large uncertainties: the ongoing commitment to emissions trading as the foundation of international climate mitigation architecture; the likely evolution

in the design and use of offset mechanisms; and volatility in the price of emissions commodities. Nonetheless, progress in international negotiations, and specifically in US climate policy, could help to reduce some of these uncertainties. In the light of the domestic revenue problem that besets proposals for direct funding (such as the G77+China or Mexican World Climate Change Fund proposals), and the added pressures on national budgets created by the current economic downturn, these options may present the most feasible for generating significant adaptation funding for years to come.

6.5 Summary and conclusions

Overall, nationally assessed contributions (direct funding) best reflect the responsibility and capacity to address climate impacts, and are likely to be necessary in order for developing countries to join a global deal. Ideally, assessed contributions will become the predominant source of adaptation funding in the long term, since they can be more predictable. Furthermore, assessed contributions avoid the potentially problematic interactions with mitigation policies that could arise with carbon market funding, such as raising the costs of CDM activity, creating dependence on CER flows or increasing pressures to weaken targets using allowance value.

Based on these observations, we suggest the following adaptation funding strategy for negotiators to consider:

- Establish nationally assessed contributions as the principal long-term revenue source for adaptation: start with low but growing commitments based on principles of responsibility and capacity. Annex I countries should themselves determine whether to fund their contributions through transfers from the general budget or through earmarked revenues from market-based instruments. Nationally assessed contributions could also be combined with an international revenue stream directly under the authority of the COP, based on any of the instruments below.
- Extend the CDM levy to JI, phase out the levy over time and examine an offset issuance certificate auction as a potential substitute.
- Seek the set aside of allowance value for adaptation purposes in all domestic and regional emission trading programmes.
- Utilise the hold back of international allowances (assigned amount units) as a backstop should parties not provide adequate or timely adaptation funding through other means in keeping with their assessed contribution levels.
- Pursue the implementation of a passenger air travel levy as a complementary source of adaptation funding.

7 THE ROLE OF THE PRIVATE SECTOR

KEY MESSAGES

- Engaging the private sector in the challenge of financing and implementing adaptation may be crucial to the success of adaptation efforts in developing countries.
- Some form of international climate insurance mechanism is likely to be an important component of Copenhagen negotiations and potentially of any final agreement. The purpose of such a mechanism is to overcome some of the barriers to a fully private insurance market being available to developing countries to deal with major disasters and long term climate change impacts. The notion of providing compensation against lost future opportunities is also likely to be high on the agenda of developing countries. While the mechanism itself would be publicly funded, the private insurance industry is likely to be closely involved in its implementation.
- There seems to be great potential for significant amounts of new finance for adaptation to be raised from private investors, particularly large institutional investors through the bond market. However, the finance sector generally has little experience in identifying and targeting climate adaptation. To maximise the benefits of climate-focused investments, the United Nations Framework Convention for Climate Change (UNFCCC) could work in partnership with major investors to raise awareness of the particular needs of developing countries and to develop practical screening tools to help identify valuable adaptation activities.
- Working with the finance sector to mainstream the climate proofing of major private investment projects should be a high priority for the UNFCCC.
- Awareness-raising about adaptation needs is a key initial step if greater engagement in adaptation by the private sector, in various forms, is to be fostered. This is most likely to be successful if framed in terms of business opportunities.
- It is likely that private sector activity will generally reach only the subset of developing countries in which investment risks are considered sufficiently low.

7.1 Introduction

With respect to financing climate adaptation in developing countries, the UNFCCC climate negotiation process focuses predominantly on raising and managing public flows of finance from Annex I countries. In some cases – the present model of the Adaptation Fund, for instance – the capital itself may be raised by taxes on private sector activity. However these mandatory contributions are essentially still part of the public finance stream. The boundary between public and private is therefore not always clear.

However, establishing flows of public finance does not guarantee that there will ultimately be sufficient finance available to developing countries to meet all future costs. For one, adaptation cost estimates are highly uncertain, so any amount agreed now may prove inadequate if future costs are higher than predicted. The outcome of negotiations with respect to the total amount of finance which will be made available by Annex I countries is also uncertain. Moreover, any finance-generating measures introduced as taxes of some kind (such as the Clean Development Mechanism (CDM) levy) are sensitive to market fluctuations, which means there is uncertainty around how much finance they will actually deliver in future years (see chapter 6). In short, regardless of the intent and outcome of negotiations the adequacy of future financial flows for adaptation will remain to some extent uncertain.

As a result, there may be demand from developing countries, both now and in the future, for access to additional finance. For this reason, it is highly relevant to consider the potential of the private sector to meet this demand. The Bali Action Plan (BAP), in articulating support for enhanced action on adaptation, prompts consideration of the way in which the private sector may contribute to adaptation in developing countries (see boxes 1.1 and 1.2).

Mechanisms which *mandate* a financial contributions for adaptation from, or through, the private sector, such as the CDM levy financing the Adaptation Fund and new proposals such as a levy on aviation, are discussed in chapter 6. The focus of this chapter is the *voluntary* roles of the private sector, that is, its autonomous investments and market participation, and how these could be incentivised.

There is very little knowledge about how the private sector is and could be engaged in delivering and financing adaptation, with the exception of issues such as insurance. This section provides a basic overview of actual and potential roles in order to describe what the private sector could do and how it would do it. In order to investigate ways that institutional frameworks and incentives might be used to catalyse private sector engagement, it is also necessary to understand both why the private sector would be motivated to engage with adaptation and the barriers that constrain its engagement at present.

The private sector as a concept is rather broad. Although both the *international* (in this case, that based in developed countries) and the *domestic* private sector both have the potential to influence the success of adaptation efforts in developing countries, from an analytical perspective it is useful to distinguish between the two because they play different roles and have different capacities. This chapter focuses on the various ways in which the international private sector can contribute to the UNFCCC's desire for scaling up, optimisation and a shift in adaptation finance in relation to developing countries (see UNFCCC 2009a), largely because historically it is this sector which has had greatest capacity for generating finance for major investment in developing countries. However, it is worth noting recent suggestions that in some regions, notably growing economies in Asia, investment finance for infrastructure projects in particular is increasingly coming from developing country investors (Schur 2008). Note also that

the domestic private sector can be a key delivery channel for adaptation initiatives that may be financed internationally.

Private sector finance is generally motivated by commercial opportunities, that is, it is profit-seeking. Philanthropic activity from private sources is often classified separately as the “voluntary sector”. However, for the purposes of this report both types of finance are considered in discussion of the private sector. While both are highly relevant mechanisms for generating new finance, it is reasonable to assume that the opportunity to earn profit will remain by far the most significant driver, and hence it is given greater emphasis.

7.2 The rationale for engaging the private sector

The private sector has come into focus in the adaptation financing discussion because of what appears to be a good match between private sector competencies and some adaptation needs. The World Resource Institute’s adaptation-development continuum (see figure 2.1) positions adaptation actions along a wide spectrum, reflecting the fact that adaptation can and must be implemented in various forms. These range from addressing the drivers of climate vulnerability, for example, through strategies to reduce poverty, to addressing specific impacts, for example, through building flood prevention infrastructure.

There is a growing interest in trying to understand the specific roles the private sector could play in addressing needs along this spectrum, and identifying how to stimulate the most productive forms of engagement. With respect to adaptation financing, the private sector could conceivably engage:

- As a *source of new finance* for activities which have an adaptation outcome or benefit. The private sector has the ability to corral significant financial resources, and can therefore potentially contribute to the necessary *scaling up* of finance identified by the UNFCCC to address the large adaptation funding shortfall;
- As a *provider of risk management mechanisms*, including insurance;
- As a *designer, manufacturer and/or distributor of goods and services* which can help communities reduce specific climate risks. The private sector has expertise in technology and service delivery and a capacity to develop innovative solutions to climate risks. In this role it could be a recipient of bilateral or multilateral adaptation funding, rather than a source of new funding. Fostering greater response by the private sector to the adaptation priorities of developing countries, such as those expressed in the National Adaptation Programmes of Action (NAPAs), could facilitate greater competition for available multilateral or bilateral funding, and thereby theoretically reduce the cost of implementing individual projects or measures. This would stretch existing funding further,

and hence assist the UNFCCC's objective of *optimising* the use of available financial resources; and

- By *ensuring that major new investments in developing countries are climate-proofed* (i.e. not maladaptive). Private investment can inadvertently support or undermine the adaptation efforts of developing countries. It is therefore necessary to ensure that decision-making takes account of future climate risks so that adaptation efforts are not compromised by ill-directed investment. The UNFCCC refers to this as an attempt to *shift* investments and financial flows.

The sections below discuss each of these potential roles.

7.3 The private sector as source of new finance

The World Business Council for Sustainable Development (WBCSD) and the World Economic Forum argue that “Even under the most optimistic scenario of donor commitments, public funds will be nowhere near sufficient to meet the investment requirements of a successful climate change strategy. The new framework must create mechanisms that catalyse much greater volumes of portfolio and direct private sector investment in climate change-related activities” (WBCSD and WEF 2008).

With the right investment conditions, the private sector has the ability to harness vast financial resources. UNFCCC figures suggest that around 60 per cent of total investment globally is derived from corporations (up to 75 per cent in parts of developing Asia), while another 26 per cent comes from individuals, farmers and small business (UNFCCC 2007a). The World Bank estimates foreign direct investment (FDI) in developing countries to be around USD 160 billion (World Bank 2006), of which in 2005 around USD 11 billion was directed to the Least Developed Countries (UNCTAD 2006). Although FDI is in reality highly concentrated in a relatively small number of resource rich countries, and not evenly spread, the scale of private sector resources which this entails is significantly larger than the amounts of finance presently committed – or indeed, being discussed as future commitments – in relation to climate adaptation.

Private finance specifically for adaptation, and not as part of climate-proofing “non climate” investments, could be delivered to developing countries as loans, equity or grants – depending on how and why the finance is being raised. Where the motivation of private investors is commercial, finance can be raised as either debt or equity, typically through the buying and selling of different forms of securities on the capital market (e.g. bonds and stocks). Philanthropy has the capacity to be used more flexibly than commercially focused investment because a profitable return is not required, although philanthropic finance is always likely to be smaller in scale. The private sector is also able to facilitate the “front-end loading” of public pledges of future finance, which is not new finance per se but is a way of bringing forward finance that has been pledged as future allocations by public donors. How each of these mechanisms might work in

relation to adaptation and the implications they have for the delivery of finance are discussed below.

Finance as debt

Investment for lending purposes can take different forms. Perhaps the most interesting from the point of view of developing countries, where individuals and communities have low incomes and generally lower access to borrowing opportunities, are those forms which can deliver loans at low interest rates. In this respect *bonds* offer potential for generating adaptation finance.

Bonds are an investment product which essentially guarantees a fixed rate of financial return over a defined period. The interest rate offered to bond investors is generally lower than rates which could be earned through higher risk forms of investment, such as the stock market, but the investment return is more secure. Very large institutional investors such as pension funds typically use bonds as a way of hedging their overall risk across their portfolio.

The newly generated finance accumulates with the bond issuer, typically public authorities such as national governments or supranational institutions such as the World Bank, although this can also be corporations. In some cases, partner financial institutions such as other banks act as intermediaries between investors and the bond issuer.

Bond buyers are most commonly large institutional investors such as pension funds, insurance companies and banks. Given the scale of financial resources these institutions have available for investment,⁴⁷ the potential for using bonds to raise finance for adaptation should not be underestimated.

The newly raised finance is stored by the issuer in some form of dedicated fund which can be used for lending purposes. The use of finance for lending is the mechanism by which the issuer makes the necessary commercial return to repay the bond, plus interest, on its maturity. Theoretically, bond finance can be used to support relatively low interest rate loans to developing countries compared to the commercial borrowing market because the monetary return required by the issuer to buy back the bonds from investors on maturity is relatively low, although the actual interest rate charged on lending will be largely at the discretion of the bond issuer.

Using bonds to generate finance for “Climate Funds”

This model of finance generation could be used specifically to raise new capital for supporting adaptation in developing countries. The key barrier, at least initially, is likely to be generating awareness of and support among large investors for the benefits of “ethical investment” of this kind. There has been considerable growth in climate funds

47 Pension funds, for instance, reportedly own around one-fifth of stock market-traded companies in the UK, “representing some £2,310 billion worth of assets under management” (climatechangecorp.com, Sep. 2008).

targeting mitigation in recent years as a result of growing investor awareness and, since carbon is now a commodity, of profit opportunities. This provides encouragement that significant finance could also be raised to assist with adaptation. However, the economic benefits associated with adaptation will sometimes not accrue to the proponent of the activity itself (e.g. in the case of a sea wall built to prevent flooding, the benefits are not to the entity building the sea wall but to the wider community – the economic value accrues outside the “market”). In such cases, we may expect lower financial returns compared to those available in the carbon market.

Since profit alone is unlikely to attract investors to adaptation over alternative investment options, some commitment to the principles of ethical investment will also be required. Investors primarily choose the form of investment (e.g. bonds) but are also able to choose between the different kinds of bonds offered in the market, that is, they can state a preference for what their investment money is used for.

Delivery

As is mentioned above, finance raised through bonds will be delivered ultimately to developing countries as loans – that is, debt – albeit at potentially lower interest rates than these countries would otherwise have access to on the commercial borrowing markets. These are sometimes referred to as “soft loans”. It may be possible to structure the overall lending programme of an individual climate fund so that some borrowers – those in LDCs, for instance – could be given access to especially cheap finance (e.g. low- or no-interest loans, as the International Development Association of the World Bank does). The trade-off in such an approach is that the interest charged to other borrowers accessing the same funding pool, in this case other developing countries, will necessarily be higher than if interest were charged equally on all lending, in order to maintain the commercial rate of return of the overall lending activity.

Finance as equity

Commercial investment can also be delivered as equity to an activity or project. In the broad sense, equity means that the investor obtains some ownership over the activity or project. One common mechanism for this is through the purchase of stocks and shares. From a commercial standpoint, the investor anticipates income derived from both the profit generated by the activity – usually paid in the form of dividends to shareholders – and from any gains in the market value of the stock itself.

Individual investors can provide equity by the direct purchase of stocks. This is most common for large institutional investors such as pension funds. Alternatively, investors may transfer responsibility for purchasing and holding stocks to some form of “pooled investment vehicle” (e.g. a “climate fund”), which manages the finance raised from an array of investors simultaneously.

Another form of providing equity is on a project basis, using the “project finance” model. The implementation of major projects, particularly infrastructure- and resource-related projects, generally requires equity (in combination with debt and insurance). The private sector may contribute some or all of these forms of finance depending on

the project. Where both public and private finance are used, the term public-private partnership is often used.

Delivery

A key feature of equity investments is that they are most appropriate for activities which are expected to generate a profitable revenue stream. In practice, this means that the economic value of the project is internalised within a market. Investments in energy production such as hydro-electric power plants, for instance, earn money which repays the investment. Investments in carbon reduction projects create carbon credits which have a market value and so generate revenue to the owner. This means that the usefulness of equity as finance for climate adaptation will not always be high. Some projects, such as new water or energy supplies, may generate internal revenue while others, for example, inert infrastructure projects such as a sea wall, will only accrue value through avoided costs to society, such as by preventing flooding. These latter cases are therefore unlikely to be targets for equity investors.

From the perspective of developing countries, private equity may still be of interest because, in instances where it replaces investment that would otherwise have come from the public sector, it frees up domestic public resources to be spent on other needs.

Philanthropy

Many of the larger philanthropic organisations, such as the Bill and Melinda Gates Foundation and the Rockefeller Foundation, work with an initial endowment that they manage in perpetuity. This means they are themselves commercial investors aiming to maintain the value of the endowment over time – the finance available for charitable distribution is directly dependent on the success of the investments, since the investment returns are then used to deliver philanthropic grants. As in the discussion above, the commercial investment part of the organisation also has the capacity to support adaptation outcomes if it adopts “socially responsible” or climate-focused investment guidelines.

Although philanthropy accounts for only a tiny fraction of overall corporate revenues, the absolute volume of finance mobilised collectively as philanthropy is still significant. “The 136 US companies that participated in the Committee to Encourage Corporate Philanthropy’s 2007 online measurements and benchmarking study, for example, between them contributed some USD 36 billion in 2006” (Nelson 2008: 21), even though less than 15 per cent of this was internationally given and only a portion of this to developing countries. In 2007, the Bill and Melinda Gates Foundation distributed in total around USD 1.9 billion in charitable grants.⁴⁸ The Rockefeller Foundation’s long-term intention is to annually use 5.5 per cent of the market value of its endowment to supply grants, which translates to around USD 225 million at the present value of the

48 See <http://www.gatesfoundation.org/about/Pages/financials.aspx>

endowment (USD 4.1 billion in 2007).⁴⁹ These figures may not match FDI, but still indicate significant financial flows.

Some of this revenue already funds work that might be considered as enhancing climate adaptation, for instance, where it is focused on the health and livelihoods end of WRI's adaptation continuum. "Building resilience to environmental degradation and climate change" is actually a specific focus theme for the Rockefeller Foundation. As the profile of adaptation needs increases among the international community, philanthropy has the potential to make additional finance available for adaptation in developing countries.

Delivery

Sources of finance which are not focused on commercial returns are able to deliver finance more flexibly than commercial sources. As with commercial finance, philanthropic capital can be dispersed to developing countries in the form of loans and/or equity. However, it can also be delivered as grants. The actual delivery mechanism for philanthropic finance will vary by source.

If the funding is delivered as debt, it can be used in different ways to commercially oriented lending. Loans can be provided at low or even no interest. Significantly, philanthropic loan finance can be reused since the initial capital does not need to be returned to the investor. Once a loan has been repaid, the finance is available to be relented to other borrowers. How long such a loan pool of finance lasts, that is, how many times it can be relented, depends on the rate of interest charged to borrowers. If no-interest loans are provided, the funding will gradually diminish over time since the initial capital reduces in value as a result of inflation. If the interest rate exceeds the rate of inflation, the finance retains its initial value in real terms and can therefore be relented indefinitely. Note however that, as is discussed above, large philanthropic organisations commonly manage a separate endowment which provides the ongoing resources needed to reuse the finance.

Either managing a separate endowment to raise philanthropic finance in perpetuity or having a steady stream of donors means the funding can also be delivered in the form of grants. The notion of "corporate social responsibility" might also be considered philanthropic in the sense that the funding model used to support individual projects is not expected to deliver investment returns in the way commercially oriented finance is. Corporate social responsibility does not only deliver finance. Corporations may also or instead invest other resources such as time, expertise, technologies or information systems in individual projects.

Climate funds based on private sector finance

Finance raised by the above measures will often be pooled into some form of managed fund. There is already a range of what can broadly be considered climate funds financed by private investors. Some primarily use debt as the delivery mechanism to developing

49 see http://www.rockfound.org/library/annual_reports/2007rf_ar.pdf

countries, others equity and, in a few philanthropic cases, grants. Managed funds may be administered by either the private sector or international institutions such as the World Bank.

Box 7.1: Case study in private sector financing: World Bank-SEB Green Bonds

In 2008, the World Bank partnered with Swedish Bank SEB to issue “Green Bonds” in order to raise capital specifically for climate change projects. The product was initiated in response to demand from a group of Scandinavian investors, predominantly pension funds and insurance companies, which identified that while there are opportunities to invest in climate change (mainly mitigation) at the venture capital or private equity level there is “a dearth of products into which they can easily direct tens or hundreds of millions of dollars of investment”.⁵⁰

Bonds are issued by the World Bank, which also administers the lending to projects, while SEB acts as a financial intermediary with investors. It is understood that SEB also took a lead role in defining the criteria for determining which projects would be eligible for lending. The first bond issue raised approximately USD 300m, and there have been several subsequent bond releases – the most recent in 2009 purchased by the Californian state treasury.

SEB has indicated to SEI that approximately 20 per cent of the total finance raised from the initial release is earmarked for adaptation projects. The broad criteria for adaptation projects are:⁵¹

- protection against floods, including reforestation and watershed management;
- food security improvement and stress-resilient crops, which slow deforestation;
- sustainable forest management and avoided deforestation.

It is unclear whether specific adaptation projects have already received funding. The World Bank website cites a “climate change development policy loan” to Mexico of around USD 500m to “mainstream climate change considerations into public policy”.⁴ Although the specific tasks described for this project appear to focus predominantly on mitigation, reducing deforestation could also have adaptation benefits.

To date, the array of climate funds are focused heavily on financing mitigation activities, such as investments in clean energy projects. However, the mechanism itself is equally applicable as a tool for raising finance which could contribute to adaptation outcomes. In discussions with SEI, the Swedish Bank SEB has suggested that there is likely to be considerable scope for adaptation-specific funds to emerge as the profile of adaptation increases in the community. Apparently, the various investors in their Green Bond product (see box 7.1) neither differentiate between mitigation and adaptation nor

⁵⁰ Environmental Finance, 12 November 2008

⁵¹ See www.worldbank.org

prioritise one over the other in making investment decisions. SEB's decision to focus mostly on mitigation projects for the first bond release was influenced mainly by the fact that mitigation was easier to explain to investors.⁵²

New finance in the case study above is entirely sourced from the private sector. Meanwhile, the World Bank has established a series of "carbon funds" – focused mostly on mitigation – that are sourced from partly public and partly private contributors. The *Community Development Carbon Fund*, for instance, is a "Multi-Donor Trust Fund" partly capitalised by 16 European corporations. Participants in the fund acquire a pro-rata share of emission reductions generated by the investment.⁵³ This means the motivation for the private sector is commercial rather than philanthropic and, importantly, the investment relies on the existence of a market value for the good or service being produced – in this case, carbon emission credits. This hybrid public-private carbon fund illustrates another potential model for generating and administering new finance from the private sector for adaptation. However, as is discussed above, any fund which delivers finance as equity into projects will only be relevant where the economic value arising from the project is internalised. Where this is not the case the equity model is not likely to attract private interest.

Front-loading of public pledges

There are other financing models which could involve the private sector and which could make funding available for adaptation. One potentially interesting model is the use of bonds to convert pledges of future funding from Annex I countries into immediate finance. This means the funds can be distributed to developing countries now, rather than in future years when the pledged funds would otherwise have been made available.

Outside the climate area, this model has already been used by the International Finance Facility for Immunisation to create "immunisation bonds" in partnership with various donor governments (the UK, France, Italy, Spain, Sweden, Norway and South Africa) and the World Bank, which acts as financial adviser and treasury manager. Bonds are issued in capital markets to raise immediate finance which can then be dispersed to recipient countries or programmes. The government pledges for immunisation programmes, which are longer term, are used to repay the bonds to investors once the bond matures.

This activity does not generate new finance, but instead brings forward the availability of pledged finance so action can be taken earlier, which is sometimes referred to as front-loading. It could be a useful model for funding activities for which there is a benefit in earlier implementation, such as capacity-building which, in turn, enables a more effective adaptation response to be developed over time. Note that this activity could be undertaken not only by the private sector but also or instead by an international institution such as the World Bank.

52 Klas Eklund, SEB, personal communication

53 See www.carbonfinance.org

The EU has proposed something of this nature, referred to as a Global Climate Financing Mechanism (EU 2009). The intention is that such a tool would ensure adequate short-term funding for adaptation in the period until financial flows become significant and steady under a post-2012 arrangement. New finance would be raised in the capital bond market for delivery to developing country adaptation programmes that have immediate benefits, such as disaster risk reduction. Government pledges would then repay the bonds over a fixed period.

Delivery

Although this activity is based on the issuance of bonds, the implications for how finance is delivered to developing countries are different to other cases where bonds are used to raise new private capital.

From the point of view of *investors* it makes no difference whether the bonds are used to raise finance for front-end loading of public pledges or for generating completely new finance for adaptation. In both cases the investor is providing finance as a loan which must be repaid with interest once the bond matures. The crucial difference, however, is that in the case of front-loading the loan would effectively be to national Annex I governments which have committed future funds to adaptation.

From the point of view of the *recipients of finance* (i.e. developing countries) the finance can be delivered in whatever form it would otherwise have been delivered in by the donors, including as grants. It could be made available to an existing institution such as the Adaptation Fund, in which case the mode of delivery would be the same as the host fund, that is, public.

Other possibilities for generating new finance

Another possible option for raising finance is suggested by the growth in voluntary corporate carbon offset programmes to mitigate climate change. In response to a clear understanding of a problem (greenhouse gas emissions) and its sources (responsible parties), some members of the private sector – both corporations and individuals – have responded by voluntarily paying to “offset” their impacts. This is not a commercial investment and nor is it strictly philanthropic, although perhaps it comes close to being.

This experience suggests there might be a potential willingness by individuals and corporations to pay for offsetting other problems associated with particular behaviours and practices, that is, to contribute to adaptation efforts in developing countries through an “adaptation offset” of some kind. Conceptualising how this might work in practice is a challenge and would be further complicated by the fact that it is the same behaviour as that already being “offset” by the carbon market. One possibility might be that some carbon offsets could simply be converted into adaptation offsets worth the same amount, that is, the offset purchaser could decide whether their calculated offset were directed to mitigation or adaptation – although this would not be uncontentious. No thinking has been done here on how such an avenue for raising new adaptation

finance might be conceived or designed, but it remains a possible avenue for further exploration.

7.4 The private sector as provider of risk-sharing mechanisms

The BAP specifically identifies insurance as a tool which could play an important role in enhancing the adaptation efforts of developing countries. There are two reasons why insurance has increased in importance as a topic at the UNFCCC level. First, the tool could conceivably help developing countries deal with emerging financial risks associated with climate change, and hence support adaptation. Second, there are significant barriers that are likely to prevent the development of a purely private sector climate insurance market that would provide, for instance, disaster support for developing country governments.

Several detailed proposals have emerged describing how developed countries and the UNFCCC process could provide the necessary support for effective scaling up of insurance availability in developing countries. The Munich Climate Insurance Initiative proposal in particular has attracted considerable attention and is a good starting point for identifying how developed nations could practically operationalise such a mechanism through the UNFCCC process. Given the extensive thinking presented elsewhere on insurance and its complexity, the purpose here is merely to provide a brief outline of possibilities.

Insurance as a tool for transferring climate risks

Insurance products provide one avenue for countries to manage the financial risks arising from climate fluctuations. Climate risks which could be spread via the insurance market include those resulting from short duration “extreme” events (e.g. storm damage), those arising from climatic fluctuations over an extended period (e.g. lower seasonal precipitation leading to crop failure) and those resulting from long term climate change (e.g. sea level rise). Insurance transfers particular risks away from vulnerable countries and populations to the global insurance market. It has also been suggested that it provides a more dignified way of coping with losses than reliance on foreign aid (Provention 2005).

Less than 1 per cent of losses caused by disasters in developing countries are insured (Linnerooth-Bayer and Mechler 2007), and these are typically limited to major commercial concerns. The penetration of individual and small business insurance in most developing countries is negligible (Gurenko and Lester 2004). To deal with the economic consequences of natural disasters, developing countries therefore currently rely heavily on international donor aid and on soft loans from international development banks. Even allowing for influxes of donor aid, an average of 90 per cent of reconstruction costs are borne by the governments of affected countries (Höppe and Gurenko 2006). “The World Bank estimates that it has provided grants and loans for

disaster relief and recovery of more than USD 38 billion to developing countries over the last two decades” (MCII: 2).

These financial burdens can have long-lasting effects on a country’s economic situation. For example, after Hurricane Mitch struck the island of Honduras in 1998 the government faced reconstruction bills of USD 1250 per capita, and five years after the event GDP was still 6 per cent below pre-Mitch growth forecasts (DFID 2004, Provention 2005).

Insurance is therefore posited as one way of replacing, or at least diminishing the need for, post-disaster humanitarian assistance.

Barriers to insurance provision and access

There are numerous reasons explaining the fact that there is very little formal insurance coverage in developing countries, particularly among the poorest groups in those countries. Essentially, traditional insurance products are generally too expensive. Low per capita incomes are a key constraint on the development of a domestic insurance market because this translates as low levels of discretionary income available to take out insurance. There can also be high transaction costs to insurers seeking to establish new schemes associated, for instance, with the need for both good quality data to underpin risk assessments and appropriate local institutions by which insurance can be delivered to communities.

In addition to transaction costs, insurers are faced with other types of financial risk when designing their products. These include “moral hazard” (once people are insured they make no further efforts to reduce risks and so increase the likelihood of losses), “adverse selection” (i.e. only the highest risk parties take out insurance cover) and “correlated risks” (i.e. if losses occur simultaneously across the risk pool the resulting payout can be very large – and in the worst case unaffordable – for insurance companies). The latter can be highly relevant to climate insurance, since disasters which strike across a region can potentially affect a large number of clients simultaneously.

Private sector insurance companies face major difficulties in attempting to balance these various costs and risks and yet still keep premiums affordable. There are therefore limited private insurance products in many parts of the developing world that could help individuals and governments deal with the impacts of climate-related risks.

To overcome these barriers, it has been suggested that a successful, sustainable risk-sharing framework needs to be multi-layered, so that both the responsibilities for reducing risks and the financial consequences of risks are spread across both private- and public-sector parties. Simplistically, this means that smaller scale risks are taken by households and companies to avoid the concepts of “moral hazard” and “adverse selection”. Large scale risks are shared by government, particularly those risks associated with the uncertain losses which are a feature of unpredictable climate changes. This may be, for instance, by direct provision of insurance guarantees or by supporting reinsurance mechanisms.

Innovative insurance products

Various efforts are being made to overcome some of the traditional barriers to providing climate insurance, such as “index-based insurance” and microinsurance targeting low income communities. These and the role of reinsurance, which is not a new concept, are briefly outlined below.

Index-based insurance

In the past decade, a new form of insurance has been developed based on a payout index correlating asset losses (e.g. crops or livestock) to weather parameters. Index based insurance works in a fundamentally different way to conventional insurance. Premiums are still paid in the same way. However, in conventional insurance payouts are made based on an assessment of the losses which occur due to a specific event. With index-based weather insurance, payouts are instead linked to a variable index, which is formulated based on rainfall, temperature, and so on, where the variation can be strongly correlated to asset losses. For example, a drought-index insurance policy would identify the average rainfall for a region and then a threshold amount of rainfall below which significant crop losses are likely to occur. Payouts will become progressively larger the further below this threshold the index falls, although to protect the insurer against extreme events there will typically be an upper limit on the maximum total payout.

The advantage of this form of insurance product is that it has lower transaction costs than conventional insurance because there is no need for individual loss assessments, and so premiums for clients can be lower. It also provides flexibility in structuring premiums, in that different premiums can be made available relating to different scales of payout for the same event. In other words, insurance buyers can choose the level of cover they can afford.

Initially explored in North America and Europe, index-based insurance is now being tested in developing country contexts as low-cost, low-payout “microinsurance” products (Alderman and Haque 2007). Experimental pilots with stand-alone index-based microinsurance products provided learning experiences from which viable, countrywide industries emerged for early adopters like India. Further pilot innovations have introduced index-based microinsurance products tied to small loans, which serve as a form of creditworthiness for poor borrowers. Loan-bundled microinsurance has the potential to increase client pools of lenders who are otherwise reluctant to extend services, given the default risks associated with rain-fed agriculture (Linnerooth-Bayer *et al.* 2007). Early pilot experiences with bundled products in Malawi have been qualified successes and reached around 2,500 farmers in the first season (Barnett *et al.* 2008).

The use of index-based insurance relies on the availability of good quality, high resolution historical weather data covering the relevant index or indices. This introduces a barrier for implementation of index-based microinsurance in many parts of the developing world where such historical data may be scant.

Reinsurance

A major barrier discouraging private insurers from engaging with the climate risk market in developing countries is the issue of how to avoid major loss payouts from correlated risks, that is, where insurance clients all suffer the same loss simultaneously. One mechanism for managing this problem is to spread a company's risk exposure geographically through reinsurance at the global level.

Several approaches have been implemented by national governments in the United Kingdom and France in relation to flood insurance to help overcome barriers to reinsurance for private insurers:

- In the UK, the government provided incentives in the form of tax exemptions and/or subsidies for insurance companies to pool resources into private reinsurance or capital accumulation.
- In France, the government directly reinsured by providing a state guarantee. In this case, reinsurance is publicly provided.

The public reinsurance model, if implemented at a national level, may be inadequate in relation to widespread climate risks in developing countries, such as drought in Africa and hurricanes in Caribbean countries, because the capacity of the national government to pay out will be simultaneously eroded by the same risks responsible for the major losses. However, it may be a useful model if the reinsurance is provided by an international institution. Financial resources for reinsurance could in this case be made available through the Adaptation Fund or a new fund under a Copenhagen Agreed Outcome, and/or through the private sector, for instance, through the bond market.

Proposals for an international climate insurance architecture

There is increasing discussion about the potential for a Copenhagen Agreed Outcome to include provisions or mechanisms relating to climate risk insurance. The two highest profile proposals are discussed below. It may be that elements of both proposals can ultimately be combined in an international insurance architecture.

AOSIS proposal

The Alliance of Small Island States (AOSIS) was among the first to develop the idea of an insurance-related scheme which could be used to help countries adapt to climate change. Their initial 1991 proposal has since been developed in more detail (AOSIS 2009), and now comprises three components. An *Insurance* component would help vulnerable countries manage financial risks from extreme weather events, addressing the difficulty countries have in accessing commercial insurance for this purpose. A *Rehabilitation/Compensation* component would provide redress for progressive long-term losses arising from, for instance, sea level rise. A *Risk Management* component would promote risk assessment and risk management tools.

The finance to support this mechanism would be created as a funding pool derived from Annex I countries, with proportional contributions from each country calculated with reference to both its GDP and historical CO₂ emissions. Under the administration of the UNFCCC, this funding pool would then be invested in interest-bearing securities in order to maintain or increase its value, and then drawn on as claims are made.

The Rehabilitation/Compensation component addresses the fact that conventional insurance will not cover many of the types of economic loss which low-lying countries could suffer as a result of sea level rise. Financial losses will occur not only in the form of property damage from flooding, but also potential resettlement costs, loss of development potential, diminished marine resources (e.g. the Exclusive Economic Zone is defined with reference to terrestrial landmarks; warming ocean temperatures can affect coral reef productivity) and, in worst case scenarios, loss of homeland. In this sense the proposal is directed at providing support against uninsurable risks.

Munich Climate Insurance Initiative

The Munich Climate Insurance Initiative (MCII) is a non-Party proposal which has had considerable input from industry experts (MCII 2009). It contains two pillars, one of which focuses on *Prevention* and is structured to put in place incentives and mechanisms for undertaking risk reduction measures. The *Insurance* pillar consists of two tiers. Tier 1 is the establishment of a Climate Insurance Pool to absorb a predefined proportion of disaster losses associated with rare but devastating losses among the vulnerable. By providing immediate cash flow it aims to help developing country governments address urgent needs following major disasters. Tier 2 is a Climate Insurance Assistance Facility, which provides technical support to encourage the emergence of public-private insurance systems that are able to offer insurance cover for the “middle layers” of risk in these countries.

Risk prevention and insurance are intrinsically linked. On the one hand, in order to be eligible to partake in a global risk pool developing country parties need to commit to “nationally appropriate risk reduction”, which would be supported by the Prevention Pillar. On the other, the risk-based premiums for Tier 1 cover are paid by developed countries, which therefore have an ongoing interest in the funding of effective preventative activities.

The proposal is not firm on how much funding should be used to implement these pillars, although indicative costs provided by MCII suggest that USD 8–10 billion annually may be needed. Nor does MCII present a case for how payment obligations to support the two pillars should be allocated, although various negotiating parties (e.g. Mexico and Norway) have subsequently proposed formulas for calculating payment responsibilities. However, MCII is clear that developed nations should bear the “overwhelming majority” of the cost, citing both the polluter pays principle and the principle of “common but differentiated responsibilities”.

The Insurance pillar is focused on overcoming market failures or barriers which prevent the emergence of a private sector insurance market. However, there is still an important

link to the private sector, since the intention is to create a framework of vertical risk sharing between public and private insurance. The private sector would insure risks up to a certain limit, while the public mechanism would provide cover above that limit.

Convergence towards Copenhagen

There are many similarities between the AOSIS and MCII insurance proposals. Importantly, they both contain complementary elements of insurance and risk prevention. The major additional element of the AOSIS proposal is the rehabilitation/compensation component, and this is something that developing country parties could strongly support since it provides some redress for losses which would otherwise not be covered by insurance. The MCII's proposal for two insurance tiers is more specific about spreading different levels of risk between different actors.

The MCII's report on the discussion of insurance at the fourteenth session of the Conference of the parties (COP 14) to the UNCCD in Poznan (MCII 2008) indicates strong support from many Parties for the inclusion of an insurance mechanism in a final Copenhagen Agreed Outcome. "All Parties that expressed their views related to insurance showed agreement that risk management and reduction is the major focus, with insurance tools needed to incentivise risk reduction and involve the private sector All Parties, but especially industrialised ones, expressed interest in more private sector involvement" (MCII 2008).

7.5 The private sector as supplier of innovative goods and services

There is a need to meet the adaptation priorities of developing countries with expertise in technology and service delivery. The World Business Council on Sustainable Development suggests that private enterprise has particular competencies which can make a unique contribution to adaptation, through innovative technology, design of resilient infrastructure, development and implementation of improved information systems and the management of major projects (WBCSD 2008). Adaptation efforts will generate new business opportunities for the private sector. There will, for instance, be increased demand for water saving expertise, new medicines, cooling systems and other major infrastructure, as well as the insurance and risk management expertise which was discussed above.

Actively encouraging this form of private sector engagement is of relevance to the UNFCCC because greater participation in the emerging adaptation "market" should foster innovation and theoretically lower the costs of adaptation. It should also increase the rate at which available adaptation funding is put to use.

Delivery channels and mechanisms

In terms of delivery, private suppliers pursuing commercial returns will seek out available markets. In this sense the adaptation funding channelled through the various GEF funds, the Adaptation Fund and other bilateral arrangements will provide the

private sector with access to finance for designing, delivering and implementing goods and services that reduce climate risks. Finance to pay for private sector expertise could also come from domestic budgets or large non-governmental organisations (NGOs) with their own financial capacity, usually backed by philanthropic capital.

The UNFCCC (2007) suggests that actual financing of innovation (i.e. research and development) will vary by source in different sectors. Some sectors and activities will be funded mostly by the private sector (e.g. information technology and pharmaceuticals), while others will not be a priority for the private sector and hence require public funding (e.g. disease research). This division generally aligns with the discussion in section 7.2 of new finance delivered as equity: activities where the financial benefit is internalised and can be harvested as profit will be of primary interest to the private sector.

7.6 Climate proofing private sector investment

This section looks at the potential mechanisms for ensuring that all private investment – not just that which is focused on adaptation – is “climate-proofed”. Section 7.1 summarises the scale of financial flows directed by the private sector as FDI to developing countries. Although these flows are unrelated to adaptation, if ill-directed from a climate perspective they can potentially undermine attempts by developing countries to reduce climate risks. The World Bank estimates that 10 per cent of FDI, or around USD 16 billion annually, is subject to climate risk (World Bank 2006).

The UNEP Finance Initiative (2006) identifies particular sectors which have long “forward commitment” periods, most notably infrastructure, up to 80 years; utilities; and forestry and pension fund investments, each up to 50 years. These are particular areas where investment decisions taken now can have long term consequences in terms of exposure to climate risks. There is therefore a need to find ways to prevent maladaptation or, in other words, to mainstream climate impacts and adaptation into private sector project planning and investment decisions.

Some companies with operations or supply chains in developing countries will, like developing countries, be directly exposed to climate-related risks through changes in the availability of resources crucial to their business. Reduced water availability can affect production, as can reduced labour productivity as a result of disease outbreaks or lack of food security. Where the outlook of a business is long term *and* there is awareness of climate-related risks, we might expect commercial motives to be sufficient to catalyse adaptation of the activities of that business. Awareness of climate risks will be the initial barrier in this respect.

However, private investment activity is sometimes focused on short-term time frames from a commercial viewpoint, such as the payback period for the investment which is commonly less than 10 years – even if the project itself will deliver long-lived infrastructure. This disconnect between short-term investment horizons and long-term exposure to climate risks can create a situation where financiers do not fully consider

climate risks in investment decisions – particularly where modifying a project’s design to be climate resilient would increase overall costs without enhancing short-term returns for the various investors.

For this reason, it is important to consider how the decisions of major investors can be influenced to meaningfully incorporate climate risks. The United Nations Environment Programme (UNEP) Finance Initiative (2006) recommends that climate change should be explicitly factored into risk assessments “like insurance pricing, the Equator Principles for project finance [and] equity portfolio management screen individual client transactions for climate change risk automatically in all processes, including lending and insurance”. Some of these suggestions will be of benefit from an adaptation perspective, but they focus primarily on the risks to the financial institutions rather than those to the countries which host their various investments – again, these do not necessarily match well because of the difference between commercial investment timelines and the life spans of some assets.

Equator Principles

The Equator Principles are “an industry approach for financial institutions in determining, assessing and managing environmental and social risk in project financing” (IFC 2007). The set of principles was established at the initiative of several international investment banks, which in 2003 adapted the socio-environmental safeguard of the International Finance Corporation (IFC).⁵⁴ They have been voluntarily adopted by 67 financial institutions worldwide and become an industry standard for addressing environmental and social issues in project financing.⁵⁵

Implementation of the Equator Principles requires financial institutions to undertake different levels of social and environmental impact assessment for certain investment projects. Although voluntary, the principles can effectively be made into mandatory requirements at a project level, when financiers impose the principles on other project partners such as construction companies through contractual arrangements.

The Equator Principles framework could potentially be a useful platform on which to build consideration of climate proofing into some private sector investment decisions. However, a number of limitations would need to be overcome. First, the principles themselves presently include only a narrow consideration of climate change issues, that is, a requirement to report the greenhouse gas emissions associated with a project. There could be a low incentive to include adaptation-related principles because these could involve additional project costs without generating additional financial benefits for investors – unless investment horizons are sufficiently long term to interact with future climate risks as they emerge. By contrast, greenhouse gas emissions can translate

54 In 1998 the IFC developed a set of performance standards to guide the way in which private sector businesses manage environmental and social issues in emerging markets (Miller 2006). These were updated in 2006 and have become the policy and performance standards of the IFC (IFC 2006).

55 See <http://www.equator-principles.com>.

as direct costs to investors in the short term so there is an incentive to properly factor this into project decisions.

Second, the principles only apply to investments which use the “project finance” model. While this is becoming an increasingly popular financing model, for infrastructure projects in particular, its use is still proportionally small compared to other forms of financial investment (Fight 2006). However, it is possible that broader forms of investment activity could be covered in future.

Other limitations that constrain its usefulness as a tool for climate proofing future investment include the absence of enforcement mechanisms to ensure that signatories comply with their commitments. Combined with a lack of transparency about implementation by private banks, this creates the potential problem of “free riders”, that is, those who preach but do not practice.

In order for the Equator Principles to become a tool for climate proofing, it is likely that the World Bank and the IFC would have to lead the way by devising a meaningful incorporation of climate risks and adaptation concerns into their investment policies. Large private banks such as ABN Amro and Citi tend to follow the lead of the IFC when considering environmental and social issues, since these often work in partnership on project finance investments. In turn, the large banks play an important influencing role for smaller financial institutions. Thus, the practices of the IFC and the World Bank can have an important “trickle down” effect on private financial institutions. The UNEP Finance Initiative (2006) reports that the Asian Development Bank is now integrating climate change into its grant and loan procedures.

7.7 How can a new climate agreement stimulate private sector contribution to adaptation?

While each of the potential roles of the private sector are described separately in the discussion above, in reality many different roles will come together at the project or programme level if adaptation is to be successfully implemented. For instance, financing major projects generally relies on both debt and equity as well as insurance, while implementing projects relies on technological expertise and an awareness of future climate risks. Importantly, in many cases there is also a complementary role which must be played by the public sector.

In considering how the UNFCCC process might create an enabling environment for harnessing private sector resources for adaptation, it is therefore useful to refer to a neat summary of “Public-private partnership roles in adaptation” from the UNEP Finance Initiative (2006) (see table 7.1).

Table 7.1: Public private partnership roles in adaptation

Issue	Role of government	Role of the private sector
Hazard reduction	Basic data and research Awareness-raising	Risk modelling
Resilience enhancing measures	Regulation and enforcement	Incentives in product design
Vulnerable sectors/ communities	Infrastructure Pilot adaptation scheme funding Diminishing livelihood support	Micro-finance and insurance backed by reinsurance Pooled development funds
Risk transfer	Guarantee fund Volatility smoothing	Insurance if conditions of insurability are met Otherwise services for public schemes
Disaster relief	Restricted, using hazard reduction and pre-funding	Relaxed terms of business during emergency. Services for public schemes Claims under climatic impact insurance
Capacity-building	Funding	Technical assistance
Technology for adaptation	Basic research Incubator stage funding	Finance and insurance for consumers and operators Venture capital
Public goods – ecosystems, heritage	Conservation policy and funding	Technical advice, flagship funding
Economic stability	Security Sound financial policy	Availability and accessibility
Financial markets	Policy and governance	Product design, distribution and marketing “After-sale” customer service e.g. claims Administration

Source: UNEP (2006: 21)

Many of the roles envisaged here for the private sector are discussed above in this chapter. The contributions envisaged in the table provide a useful segue into conceptualising the role of the public sector and of international institutions in facilitating private sector activity.

General principles

The UNFCCC (2007) and others have suggested numerous actions which governments could take to encourage the private sector to contribute to adaptation. Some of these actions could also be applicable at the international level, that is via the UNFCCC and/or future climate framework itself.

A few general concepts emerge which are useful as guidance:

- The need to “*pay the innovator*”: As the carbon market provides incentives and rewards for innovation, finding ways of rewarding private sector actions which enhance adaptation will be necessary to massively upscale private sector engagement.
- The need to *fill information gaps and build awareness*: An important first step in this regard has been supporting the efforts of developing countries to identify immediate adaptation priorities through the preparation of NAPAs. A next step may be to publicise these needs in a form that will encourage business engagement.
- The need to *share the risks* associated with climate change impacts and with taking adaptive measures. For instance, finding ways of lowering the barriers for private insurers to making appropriate insurance products available for low income communities, and for developing countries at a national level could have significant benefits for reducing the vulnerability of individuals and communities to climate risks.
- The need to *build the capacity of developing countries* to engage as partners with the private sector in a way that improves the likelihood that the needs and interests of developing countries will be protected.

An important observation to make about private sector activity in developing countries is that the private sector has a clear track record of preferentially directing resources to certain countries or regions where it perceives risk to be lowest and the possible returns highest. Country risks play a major role in investment decisions by foreign investors and lenders. When choosing between investment locations, the private sector considers factors such as natural and social resources, market size, operating costs, taxation and regulatory frameworks, technology and information, infrastructure, institutions, and so on.

The UNFCCC (2007) points out that countries which are unable to attract private capital are therefore highly reliant on public capital for a wider range of investments. This problem is not unique to the issue of climate adaptation. This means that even if the private sector increases adaptation-related activity, it is reasonable to expect that some developing countries are unlikely to be involved – at least for some time – on the basis of perceived country risks.

The opportunities for private sector activity on adaptation to be fostered in the context of climate negotiations are discussed below.

Negotiating new finance for adaptation under a future climate agreement

With the exception of insurance issues, fostering private sector activity seems unlikely to be a major focus for the climate negotiations. However, it is useful to be aware of

a number of important links between adaptation financing discussions and the private sector:

- Annex I countries have mechanisms available to them to generate new finance for adaptation from the private sector as a mandatory requirement. The present share of proceeds on CDM transactions financing the Adaptation Fund is one example. These could be used as tools by Annex I countries to meet any agreed adaptation financing targets or obligations. Market mechanisms for generating new finance could be applied at the country level, at the discretion of an individual country, or at the international level.
- If national obligations for financing adaptation are agreed for Annex I countries, it is possible that some may seek to have any *voluntary* activities of their domestically based private sector that support adaptation in developing countries counted towards their national obligations. This would be inappropriate for several reasons. First, if the private sector is undertaking this activity of its own accord it represents “business as usual” activity and it is questionable whether this would meet the definition of new and additional, unless individual private entities formally agreed that their investments could be counted towards national public contributions – which would be an unlikely outcome. Second, commercial private sector finance will primarily be delivered as debt and/or equity rather than grants or compensation, which is problematic from an equity perspective. Third, and most importantly, it would be almost impossible to verify the scale of actual financial flows or the components that could be considered to be contributing to adaptation.

The two proposals discussed in section 7.3 provide guidance on how climate negotiations and the UNFCCC could support an international climate insurance mechanism. In the event that climate insurance is explicitly discussed during negotiations the key issues to be resolved are likely to include:

- Who pays and how much?
- How should an international climate insurance facility be administered?
- Who is eligible to access insurance coverage, and by what criteria?

Decisions on how adaptation finance will be used

Governance model

If finance is to be used to create enabling environments for the private sector to participate in adaptation – either through finance, insurance or technologies – then the governance model chosen for how finance is to be managed will have implications. If all funding is devolved to developing nations, this will constrain strategic initiatives at the international level, for instance, the creation of some international climate

insurance mechanisms. It may be useful for some finance to remain available at the international level in order to strategically overcome common barriers to private sector engagement.

Specific uses for finance

There are ways in which decisions about how adaptation finance will be used could potentially foster different aspects of private sector engagement. Consideration of this issue by the UNFCCC process is of most relevance if control of finance remains at the international level rather than being devolved to developing country governments, but most examples of the use of funds could also be implemented where funding decisions are devolved to national governments. Some examples are listed below.

In the case of *insurance*, the establishment of an international climate insurance mechanism would target developing country governments in the event of major climate-related disasters. However, there are other measures which could be taken to incentivise the development of climate- and livelihood-related insurance markets in developing countries, particularly at the community and individual levels. For instance, adaptation finance could be used to:

- meet some of the upfront costs that insurers face in entering new markets, such as the need for weather information systems to support weather-indexed insurance products;
- support micro-insurance pilot projects, such as index-based insurance for agriculture-dependent economies in the developing world; and
- subsidise insurance premiums for the poor

As with insurance, public funding can potentially reduce “first mover” risks for the private sector to support *technological innovation and transfer*. This would encourage a company to develop the capacity, networks and practices needed for them to sustain ongoing activities in a country. “Investments in higher risk, innovative technologies and services often have to address non-commercial risks as well. Public funds can be used to remove barriers to market development and reduce costs to replicate transactions in the future” (IFC, 2007). Dedicated venture capital funding might be one avenue for financing the development of promising new adaptation-related technologies and to assist their penetration in the marketplace.

The ongoing role of the UNFCCC

Fill information gaps and raise awareness

- Raise awareness within the private sector of the needs of developing countries and of opportunities for private sector engagement. The UNFCCC can help to promote adaptation needs, such as those prioritised in NAPAs, in a form that attracts the attention of the private sector.

- With respect to private investment, the UNFCCC could develop guidance for climate fund investors on the important criteria for assessing the adaptation merits of different projects or activities, which would provide direction to finance which is raised privately in support of adaptation. As investor support for generating new finance for adaptation increases there will be a need to make sure this is wisely and appropriately directed. UNFCCC expertise and resources could help to develop the criteria by which major investors can screen for adaptation benefits, for instance, when investing climate funds.
- Provide a platform for knowledge exchange on development and the application of new products such as insurance.

Overcoming barriers to climate proofing

- Work in partnership with the World Bank and the IFC as well as the major development banks to incorporate consideration of future climate change impacts into investment decisions. Since these institutions arguably play a leadership role for private institutions on issues of social and environmental criteria for investment, this would be a useful first step in fostering the climate proofing of private investments.
- Simultaneously, work in partnership with leading financial institutions to develop and implement climate risk-related investment criteria so that climate risks are internalised by investment decision-making for both project financing and investment portfolios. An expanded version of the Equator Principles may be a useful platform for implementing such criteria.

Building partnerships

- Building partnerships between international and domestic private actors, as well as between private and public actors, could improve the prospects for private sector engagement. This is a potentially important role not only for the UNFCCC but also for national and international development agencies.

8 EQUITY, JUSTICE AND TRUST ISSUES

8.1 Introducing the “fairness imperative” in adaptation funding

This report approaches adaptation financing by posing a series of questions on the delivery, governance and sourcing of adaptation funding. In proposing that theory and practice must learn from each other, this chapter presents the context of equity and justice and relevant considerations for crafting a fair burden-sharing structure for adaptation financing. Moving through the three stages of adaptation financing, it questions the absence and imperatives of substantive and procedural fairness, and the interplay between fairness and trust among Parties. This chapter is motivated by a recurrent theme in the interdisciplinary literature and in observations among actors in the negotiating process – that impasses in climate change negotiations under the UNFCCC can be attributed to differences in Parties’ perceptions of what is equitable or fair. It proposes that procedural justice and substantive justice are thus necessary at each of the stages of adaptation financing discussed in this report.

This chapter discusses the theoretical parameters of what is just, fair and equitable in a broader moral and legal context. The equity principles relevant to burden-sharing in the context of adaptation introduced in chapter 2 are drawn on to illustrate the challenges of reaching a burden-sharing framework that is perceived by all as equitable or substantively fair. How these principles are applied is in constant flux: as the variables of Parties’ responsibility and capacity change over time, so will perceptions of what is fair. To this end, it is important for negotiators to understand this state of flux – that the implications of agreed principles, such as common but differentiated responsibilities, enunciated in the text of the UNFCCC are not static but also change over time. This suggests that for a post-2012 agreement on adaptation financing to be perceived as just and fair, it must be sufficiently malleable to *remain* equitable over time, and contain formulae that accommodate changing parameters.

Applying this framework to practice, the relation between, on the one hand, perceptions of fairness in terms of both outcome (or substantive or distributive justice) and process (procedural justice) (see Müller 2001) and, on the other hand, levels of trust among Parties is considered at each stage of adaptation financing. For instance, at the stage of delivery variables of need, capacity and responsibility are proposed as relevant to reaching a mutual understanding of the principle of intra-generational equity. At the level of governance, the principles of good governance and subsidiarity seem at odds with levels of trust among parties due to non-compliance in other contexts, most notably that of developed countries not delivering on ODA. At the level of the generation of funds, burden-sharing principles of common but differentiated responsibilities, the polluter pays and inter-generational equity as well as public participation in terms of access and the influence of civil society in the UNFCCC process are considered. Each stage seems to suggest that fairness in process and outcome will affect trust among

Parties, and thus the likelihood of reaching an agreement on all the stages of adaptation financing.

The chapter concludes by attempting to reconcile this chapter's emphasis on responsibility – implying that states Parties and not private entities must take most responsibility for generating new and additional funding for adaptation – with the potentially contradictory focus of chapter 7 on promoting voluntary private sector financing for adaptation, which is intuitively at odds with notions of the historical responsibility of states.

8.2 Defining equity and justice, and their relevance in the context of adaptation financing

Procedural justice and the principles of distributive justice (equity) are fundamental to an adaptation finance agreement

Justice, fairness and equity are broad concepts that should not be conflated. Here, two uses of the term “equity” are combined to propose what is “equitable” in the context of adaptation financing. Traditionally, English common law used equity to describe a group of principles that supplemented the strict rule of law. Equity was applied where the letter of the law led to an outcome that was blatantly unfair, for instance, when equal conditions are imposed on unequals. Courts of law could only award monetary damages, but courts of equity could direct someone to perform or to desist from an action. The classic example is of the neighbour whose milk cow ventures onto neighbouring property: the equitable remedy of returning the cow is intuitively “more fair” than the legal remedy, which would be to pay the owner the monetary value of the cow. In most legal systems today, the concept of equity as fairness is used to ensure that in legislating and applying law, rights and obligations or burdens are fairly distributed in situations of inequality. Applying this understanding to reaching and implementing an agreement on adaptation financing, equity is the set of principles (see section 2.2 for a discussion of some of these principles) that ensures that the process and outcome fairly distribute benefits and burdens among countries with unequal responsibilities, capacities, and needs or vulnerabilities.

A second and complementary use of equity is found in international legal theory, in which the concept of equity is placed alongside *morality* and *law* as the three components of international justice. Where law implies an international legal system of rules that governs all states equally, some of which is codified as positive law, morality is a broad expression of universal principles governing “civilised nations”, which has roots in natural law, and (although contested) fills gaps in positive law. Equity in turn contemplates distributive fairness, using broad principles to approach questions of equitable allocation, such as: (a) whether decisions are based on responsibility, needs, capacity, prior entitlement, or strict equality; and (b) the weight that should be given to each of these variables (Shelton 2009). It follows that in reaching an outcome seen as equitable between states, each of these three norms of international justice must be applied and weighed.

It is emphasised above that justice and equity should not be conflated. Instead, like the morality-equity-law framework, equity is one dimension of the broader concept of justice. Furthermore, given its concern with distributive fairness, equity can be understood as a matter of purely distributive (substantive) justice, while the broader concept of justice comprises matters of procedural justice (law). For a just global climate agreement, including on financing adaptation, both procedural and distributive justice must be observed (Brunnée 2009).

In applying these concepts to *international climate justice*, what is just, fair or equitable is contingent on what is at stake. What is at stake in the context of adaptation financing involves the distribution formula of the prospective cost burdens due to the effects of climate change. Some suggest that distributive problems will arise in a context of “moral ambiguity” (Müller 2001). In the case of sharing adaptation financing burdens, moral ambiguity can be illustrated through the dilemma of how variables of equitable burden allocation – variables such as need, capacity and responsibility – should be weighed. In the context of moral ambiguity, differences exist in perceptions of what is equitable, but each perception is valid to the actor that holds it. To illustrate, should a hypothetical country A which has capacity, for instance a relatively high gross domestic product, but no historic contribution to global GHG emissions, that is, no responsibility, be compelled to contribute to adaptation funding? Similarly, should country B, with no capacity and minimal responsibility, bear the human and social costs of adaptation without monetary assistance from others –including country A? It becomes clear that the challenge of reaching an equitable compromise in a morally ambiguous context is difficult. While the ambiguity itself may not be resolved, it is imperative that each party acknowledge the relevance of others’ positions if a mutually acceptable compromise is to be reached.

To complicate matters, the parameters that might be termed morally relevant will change over time, for example, if country B were to go through a period of rapid development resulting in increases in both its capacity and responsibility, and these increases were exceeded by its increased emissions. Because a distributive arrangement for burden-sharing in an adaptation financing agreement will be more than a short-term arrangement, this type of changing context or circumstance is likely, or even inevitable. Thus, Parties to an adaptation financing agreement must gain an understanding of both how to apply equity principles and accommodate changing moral circumstances. In sum, for a post-2012 agreement on adaptation financing to remain equitable over time, it must anticipate and accommodate changes in the morally relevant parameters.

Equity as an imperative for trust, and trust as an imperative for compromise

This report argues that theoretical notions of equity and justice are highly relevant to reaching an agreement on adaptation financing because trust among the negotiating blocks is a practical consideration. This report joins others in suggesting that the failure of developed and developing countries to reach a shared understanding on applying equity principles to burden-sharing serves to perpetuate an extant trust deficit between developed and developing countries. Developed countries, for instance, have

not demonstrated a shared understanding with developing countries on the principles of accountability and inter-generational equity, as illustrated through the failure to deliver on, albeit moral and not legal, obligations on targets for official development assistance. According to developed countries, developing countries for their part have not demonstrated a shared operationalisation of the principles of good governance, leading developed countries to question the advisability of country ownership in governance and delivery.

It has been suggested that the UNFCCC negotiations on adaptation financing – particularly on the Adaptation Fund in recent years – illustrate how this lack of trust plays out. Seemingly trivial disagreements on wording of minimal consequence, for instance the protracted debate on the use of the adjective “all” to describe “relevant institutions”, provide one example (Müller, 2006). While such incidents may seem insignificant or only moderately annoying or bemusing at the time, they have important consequences – the inability to reach a compromise or engage in further debate.

Illustrating the magnitude of this type of impasse, it has been suggested that where developed countries understand equity in climate change as arriving at a “fair” proportioning of rights to the atmosphere in the future (forward-looking responsibility), the equity issue for developing countries is one of damages for past emissions (backward-looking responsibility). This analysis not only frames divergent conceptions of what is equitable as the cause of the inability to achieve a post-2012 climate change agreement, but also makes adaptation and implicitly its financing the crux of the problem.⁵⁶ It further frames shared conceptions of equity principles as a prerequisite for mutual trust and mutual agreement.

8.3 The equity problem in delivery, governance and generating adaptation financing

Having proposed above a relationship between perceptions of fairness and levels of trust, this report considers the principles of equity when answering questions of how adaptation finance can be distributed among and within developing countries (delivery), to which bodies or entities it should be entrusted (governance), and what is new and additional (generation). It proposes that each stage presents unique challenges for the application of equity principles, procedural fairness, and burden-sharing arrangements – including how to weigh variables such as need/vulnerability, capacity, responsibility and entitlement. If a shared understanding of equity principles interplays with trust among Parties, and thus the instance or ambition for a negotiated outcome on adaptation financing, these challenges will need to be considered and reconciled during the Copenhagen negotiation process.

⁵⁶ For relevant theoretical frameworks see Jagers and Duus-Otterström (2008), Müller (2006) and Verheyen (2005).

Delivery

Chapter 4 discusses the ways in which adaptation needs can be delivered, focusing particularly on the roles of public-, voluntary-, and private-sector delivery agents, and their respective influence on financing arrangements. It also discusses the criteria by which adaptation projects and programmes are considered eligible, and how to prioritise among recipient countries, projects and programmes in the context of funding that is insufficient to meet all adaptation needs.

Public sector delivery is seen as paramount. While private sector activity can contribute to delivering adaptation needs, only public expenditure will deliver those adaptation needs on which the rate of return is insufficient to attract private sector investment. This is important not only practically, in that the private sector will not fund activities that are not profitable even if these activities are essential, but also as a matter of principle. As is discussed in chapter 2, the equity principle of common but differentiated responsibilities in the context of the UNFCCC places responsibility on states. Thus, if it is accepted that equity principles must be observed as part of building and preserving trust among Parties to an agreement, states must necessarily take responsibility for delivery if the equity principle is to be observed.

As to eligibility, an important consideration of procedural fairness relates to determining what qualifies as an adaptation activity. Chapter 3 finds that there is no uniform way to identify adaptation needs. There is a spectrum of needs from a focus on vulnerability, the development end of the continuum, to a focus on climate-specific impacts. The question of what constitute adaptation activities is thus equally ambiguous. Obviously, only adaptation activities will be considered eligible and prioritised for adaptation financing. The question for equity is where the “burden of proof” lies for establishing whether an activity is or is not an adaptation activity. A country-driven process, for instance, upholding the subsidiarity principle, would place the obligation to prove that a candidate adaptation activity is not an adaptation activity with the payer, rather than making the candidate recipient prove that their needs are adaptation needs and their activity therefore an eligible adaptation activity.

Governance

Chapter 5 finds the existing governance structures for adaptation finance complex, inefficient and unresponsive to the needs of developing countries. It proposes two guiding questions for governance reform: whether governance should be retained or devolved, and whether it should be consolidated or fragmented. Numerous questions about procedural and substantive fairness are embedded in these guiding questions. Procedurally, by insisting that matters relating governance of adaptation financing be under the authority of the Conference of the Parties to the UNFCCC, and that governance must result in coordination and coherence between UNFCCC and non-UNFCCC funding sources, the report approaches the imperative of good governance, nationally and internationally. Aspects of good governance – transparency in process, sound institutional structures and the rule of law – as well as the principle of public participation in decision-making are essential to addressing the criticisms of its complexity, inefficiency and unresponsiveness. Transparency and accountability in

governance processes, and also in reaching a decision on what a governance structure should look like, will be components of the trust building suggested as necessary for the negotiations to progress at times of disagreement.

Furthermore, by proposing a more consolidated but devolved governance structure, this report implies that Parties must address the principle of subsidiarity, which in this case translates to country ownership of adaptation activities at the national or sub-national levels. Good governance is obviously key here as well, as it pertains to enabling environments in which country-driven activities can be efficient and effective.

Sources of finance

Identifying an enormous gap between the estimated costs of adaptation and the funds currently available for this purpose, chapter 6 examines options for generating the requisite new and additional financing for adaptation activities.

In the context of the generation of funds, various principles that approach burden-sharing must be applied to consideration of questions of who should pay, in what proportion, and according to what formula. (The Greenhouse Development Rights framework was mentioned to this effect.) Different equity principles provide different answers to how burdens ought equitably to be allocated to different actors and in what proportion – and thus these principles may be seen to compete. Most notably, the principle of common but differentiated responsibilities, discussed in chapter 2, clearly prescribes that concern is shared equally among countries, but that states' respective responsibilities are to be distinguished. While the question of allocating responsibility among states remains a matter of contention, what is clear in the context of the UNFCCC is that responsibility lies with states. It follows that because the principle of common but differentiated responsibilities is enshrined in article 3 of the UNFCCC, it is clear then that states carry responsibility – including financing responsibility – in the context of adaptation. This makes new and additional funds and nationally assessed contributions key questions of equity for the generation of adaptation financing. By contrast, the question of where responsibility lies is less clear in context of the polluter pays principle, which simply states that the one who caused the pollution is responsible for its consequences. The polluter pays principle is not incorporated into the text of the UNFCCC, and thus is of less relevance to adaptation finance. Weighing up these principles, it is argued that responsibility for generating funding for adaptation under a Copenhagen Agreed Outcome remains with Parties and not other actors, although other actors – including the voluntary and private sectors as discussed in chapter 7 and in the conclusion below – may be significant supplementary contributors.

8.4 Summary and conclusion

This chapter argues that an understanding among developed and developing Parties of the moral ambiguity in which equity principles sit is essential for a compromise to be reached on adaptation finance. Furthermore, this agreement on adaptation finance must be sufficiently flexible to accommodate changes in the application of equity principles

due to morally relevant parameters, which will necessarily change over time. A shared understanding of the context is a prerequisite for negotiations to be considered procedurally and substantively fair, which in turn is required for trust to be built and an agreement to be reached. Questions of equity and fairness are apparent at all stages of the adaptation financing process.

A final comment is necessary on justice and equity in financing regarding the attention given in this report to the private sector and the voluntary actor at various stages of the adaptation finance story. The potentially significant role of the voluntary sector in complementing public funds for adaptation finance is the focus of chapter 7, and is a theme running throughout this report. The message is that while a Copenhagen Agreed Outcome on adaptation finance can only directly address public sector delivery, the role of the private and voluntary sectors cannot and should not be discounted. Drawing loosely on the vocabulary of equity and justice presented above, creating incentives and mechanisms for increased voluntary- and private- sector participation, and private sector involvement more broadly, is imperative for a *substantively fair outcome* in the context of the generation of funds. Increased funding from the private sector equates to more money for adaptation activities in developing countries. Particularly because it has been shown that public funds are as yet woefully insufficient to meet even the most conservative estimates of adaptation financing costs, the private sector appears an additional source of funding for adaptation.

The flip side to this argument is that private sector finance does not contribute to a *procedurally fair outcome*. Private sector funds sit far from the notion of compensation in the equity sense,⁵⁷ and private sector finance rarely comes in the form of grants. Burden-sharing arrangements use the vocabulary of capacity and responsibility. As is discussed above, the more relevant principle of common but differentiated responsibilities places responsibility with *states* and not other actors. Developing countries see new and additional funding under the UNFCCC as a legal duty, compliance with which links to notions of good faith and trust among Parties. Private sector finance cannot address these concerns, and thus does not contribute to an outcome perceived as procedurally fair. This chapter concludes, therefore, by arguing that private sector funds can be supplementary but cannot replace the need for ambitious new and additional funding commitments from developed country parties.

57 It is acknowledged that if the private sector is used as a delivery mechanism, i.e., if the funding is not voluntary but imposed as an obligation on the private sector by the relevant developed country governments, then it is plausible that the flows delivered in this way could be counted against compliance.

9 CONCLUSIONS AND RECOMMENDATIONS

This report provides a snapshot of many of the issues relevant to the negotiations on adaptation finance for a Copenhagen Agreed Outcome. At the time of publication – three months before the fifteenth session of the Conference of the Parties (COP 15) to the United Nations Framework Convention on Climate Change – these negotiations are clearly well underway, and new developments, positions and proposals are reported almost daily. The authors are aware that many of the issues reported and discussed above may be obsolete within a matter of months, and that new issues will emerge. It is therefore difficult to draw conclusions and make recommendations that will remain relevant beyond a few months. Section 9.2 below, however, attempts to do just this, by distilling the six most important – and hopefully more permanent – messages of this report. But first, each chapter of the report has presented a set of key messages relevant to that chapter, which are resumed here.

9.1 Key messages of the individual chapters

This report starts with its end purpose (i.e. achieving adaptation on the ground) and derives from it appropriate delivery, governance and generation arrangements under a new Copenhagen Agreed Outcome. However, since political feasibility and acceptance are major factors, this was preceded by mapping the key issues for the negotiations informed by Parties' submissions.

Chapter 2 on key issues for the negotiations concludes that:

- An agreement on adaptation finance under a Copenhagen Agreed Outcome should be firmly based on, and consistent with, internationally agreed principles, existing commitments under the Convention and previous decisions by the Conference of the Parties.
- The operational and policy links between adaptation and development should not be confused. From an operational point of view, creating synergies between adaptation and development is desirable. From a policy point of view, however, adaptation finance should be seen as distinct from development assistance.
- There is broad agreement between developing and developed countries on the need to scale up finance for adaptation, but there are diverging views on critical issues, including the sufficiency of identified adaptation needs for resource allocations, the role of official development assistance (ODA) delivery mechanisms in adaptation, the need for new institutions under the Convention and the desirability of targets for nationally assessed contributions for adaptation finance.
- A Copenhagen Agreed Outcome can take a number of different legal forms, each of which may have implications for adaptation finance that as yet are uncertain and not well understood.

Chapter 3 on adaptation needs concludes that:

- Adaptation is not well-defined in the Convention, which is one reason why needs assessments and cost estimates are uncertain and possibly underestimated. However, a Copenhagen Agreed Outcome should not be prevented by the absence of a definition.
- A range of different types of legitimate adaptation needs have been identified in various United Nations Framework Convention on Climate Change (UNFCCC) documents, and this diversity may be challenging when deciding on the allocation of scarce funds.
- Existing assessments show that the need to adapt is greatest in primary sectors, such as agriculture, water resources and coastal resources, underscoring the close interlinkages between adaptation and development. The assessments do not show a clear prioritisation for either “hard” or “soft” measures, or for vulnerability- or impact-focused adaptation. Furthermore, disaster risk reduction will apparently become an increasingly important adaptation activity in the future.
- A majority of adaptation projects already completed (although not necessarily funded under the UNFCCC) have been undertaken at the community level and were not necessarily planned as adaptation projects. Adaptation benefits have instead been “serendipitous”. More systematic analysis of past and completed projects would improve learning and inform a future adaptation regime.
- Although needs assessments will need to be continually updated, especially with regard to longer term and less immediate needs, existing assessments, especially the National Adaptation Programmes of Action, should be used and commitments to financially support their implementation should be honoured.
- A more explicit, and potentially common, timeframe for implementation of adaptation would be useful for clarifying the need for international policy action and multilateral support. Adaptation needs could be more clearly defined with respect to the short (immediate), medium (up to 2020?), and long (beyond 2020?) term.

Chapter 4 on the delivery of adaptation finance concludes that:

- Adaptation finance can be delivered on the ground through public (domestic, multilateral or bilateral), private sector or civil society delivery channels.
- Public sector delivery plays a non-negotiable key role in adaptation finance, as adaptation is in many cases a public good and various forms of public intervention are needed to create an enabling environment for adaptation undertaken by other actors and for facilitating non-public kinds of financial flows.

- In addition to public sector delivery, there are clear roles for civil society and private sector delivery, but these are not as reliable and there is as yet little experience of them.
- Domestic public resources for adaptation already seem to be made available in developing countries on a limited but growing scale. While it is important to climate-proof the often large amounts of public expenditure on climate-sensitive sectors such as agriculture to ensure consistency with specifically targeted adaptation expenditure, adding adaptation as a priority to national budgets would also mean fewer resources for other legitimate development objectives.
- Delivery of adaptation finance from United Nations Framework Convention on Climate Change (UNFCCC) and Global Environment Facility (GEF) funds as well as from official development assistance (ODA) funds has primarily focused on adaptation assessment, planning and capacity-building, although the yet to become operational Kyoto Protocol Adaptation Fund should focus more on implementation of concrete adaptation projects (Stage III activities).
- Regarding UNFCCC fund delivery, access for developing countries has so far been prohibitively complicated and this needs to be addressed under a Copenhagen Agreed Outcome. This entails not only clear rules for direct access, but also a clear and stable framework on how eligibility and prioritisation based on countries' vulnerability is determined. Other criteria such as coherence with national development plans, cost-effectiveness and appropriateness also need to be internally prioritised.
- Some common challenges for both UNFCCC- and ODA-based delivery are the lack of appropriate markers, monitoring systems and indicators for adaptation, which prevent evaluation of not only whether needs are met but also the volume of funding provided, and how mainstreaming could become operationalised as a modality in a context where mutual accountability is seen as important by Parties.
- It is difficult to separate the roles of UNFCCC delivery and ODA delivery based only on the vulnerability/impact continuum. Instead, from a perspective of pure comparative advantage in delivery rather than equity in terms of who should and how funds should be generated (see chapters 6 and 8), their combination should optimise their respective strengths in meeting identified adaptation needs and conforming with agreed principles.
- The issue of additionality in relation to ODA levels should be addressed at the stage of generation (chapter 6) and not delivery. Once resources are mobilised through the various channels, they should, however, be disbursed in an integrative fashion. Delivering on adaptation, regardless of whether a vulnerability- or a more impact-focused approach is adopted, will be more efficient and effective

through the pooling of available resources for development and adaptation, as well as the strengthening of existing development processes and mechanisms.

Chapter 5 on the governance of adaptation finance concludes that:

- The current institutional architecture of the financial instruments for adaptation under the United Nations Framework Convention on Climate Change (UNFCCC) is overly complex, and its governance is inadequate in terms of efficiency, fairness and responsiveness to the needs of developing countries.
- The governance of adaptation finance under a Copenhagen Agreed Outcome needs to: (i) be under the guidance and authority of the Conference of the Parties (COP) to the UNFCCC; (ii) be transparent, efficient, effective and equitable; and (iii) result in coherence between UNFCCC and non-UNFCCC sources of funding.
- The institutional architecture for adaptation finance under a Copenhagen Agreed Outcome should be country-driven and promote country ownership by devolving decision-making on adaptation activities and priorities to the national level.
- A Copenhagen Agreed Outcome should seek to avoid further fragmentation of adaptation finance by consolidating funds at the international level, thereby also ensuring consolidated adaptation decision-making at the national level.

Chapter 6 on the generation of adaptation finance concludes that:

- The adaptation funding gap will not be adequately addressed by the funding that is currently available, or in the short term.
- To generate new and additional financial resources under a Copenhagen Agreed Outcome, Parties could decide either to specify a level of finance to be provided within a certain timeframe together with guidelines for accounting, or to specify the fundraising instruments to be used that in and of themselves would generate new and additional funds.
- Based on assessment against criteria stated within the Bali Action Plan (BAP) and the broader United Nations Framework Convention on Climate Change (UNFCCC) context, the following options for funding sources can be considered:
- Establish nationally assessed contributions as the principal long-term revenue source for adaptation: start with low but growing commitments based on the principles of responsibility and capacity. Annex I countries should themselves determine whether to fund their contributions through transfers from the general budget or through earmarked revenues from market-based instruments. Nationally assessed contributions could also be combined with an international

revenue stream directly under the authority of the Conference of the Parties to the UNFCCC, based on any of the instruments below.

- Extend the Clean Development Mechanism (CDM) levy to Joint Implementation (JI), phase out the levy over time, and examine an offset issuance certificate auction as a potential substitute;
- Seek to set aside the allowance value for adaptation purposes in all domestic and regional emission trading programmes;
- Utilise the hold back of international allowances (AAUs) as a backstop should parties not provide adequate or timely adaptation funding through other means in keeping with their assessed contribution levels; and
- Pursue implementation of a passenger air travel levy as a complementary source of adaptation funding.

Chapter 7 on the role of the private sector concludes that:

- Engaging the private sector in the challenge of financing and implementing adaptation may be crucial to the success of adaptation efforts in developing countries.
- Some form of international climate insurance mechanism is likely to be an important component of Copenhagen negotiations and potentially of any final agreement. The purpose of such a mechanism is to overcome some of the barriers to a fully private insurance market being available to developing countries to deal with major disasters and long term climate change impacts. The notion of providing compensation against lost future opportunities is also likely to be high on the agenda of developing countries. While the mechanism itself would be publicly funded, the private insurance industry is likely to be closely involved in its implementation.
- There seems to be great potential for significant amounts of new finance for adaptation to be raised from private investors, particularly large institutional investors through the bond market. However, the finance sector generally has little experience in identifying and targeting climate adaptation. To maximise the benefits of climate-focused investments, the United Nations Framework Convention for Climate Change (UNFCCC) could work in partnership with major investors to raise awareness of the particular needs of developing countries and to develop practical screening tools to help identify valuable adaptation activities.
- Working with the finance sector to mainstream the climate proofing of major private investment projects should be a high priority for the UNFCCC.

- Awareness-raising about adaptation needs is a key initial step if greater engagement in adaptation by the private sector, in various forms, is to be fostered. This is most likely to be successful if framed in terms of business opportunities.
- It is likely that private sector activity will generally reach only the subset of developing countries in which investment risks are considered sufficiently low.

Chapter 8 on equity, justice and trust issues concludes that:

- Impasses in climate change negotiations under the United Nations Framework Convention on Climate Change (UNFCCC) can often be attributed to different perceptions of what is “equitable” or “fair” burden-sharing. In order to bridge the extant trust deficit and approach a mutually acceptable outcome, Parties must first make an effort to understand other understandings of equity principles.
- An understanding of what is fair must translate into a joint vocabulary on burden-sharing arrangements.
- An adaptation financing arrangement must be flexible to accommodate change in morally relevant parameters – what is equitable will change as the variables of need, capacity, responsibility and entitlement also change.
- All the stages of adaptation finance must be perceived as substantively *and* procedurally just.
- While private sector financing must be incentivised as a potentially significant supplementary source of financing, for reasons of equity and trust it cannot be an alternative to the new and additional funds needed from developed country Parties.

9.2 Six overarching messages

1. An agreement on adaptation finance is crucial to the success of the Copenhagen negotiations.

The Bali Action Plan is explicit in attaching equal importance to enhanced efforts on both adaptation and mitigation. Whereas until recently the success of climate negotiations was measured in terms of what was agreed on mitigation, developing countries have made it clear that without a deal on adaptation, there is unlikely to be a deal on mitigation. An agreement on adaptation finance is therefore important beyond its significance to supporting adaptation activities in developing countries. An agreement on adaptation finance is significant to the whole of the Copenhagen Agreed Outcome.

2. Uncertainty about the investment and financial flows needed for adaptation should not be used as an excuse for not acting decisively.

Article 3.3 of the Convention states that “where there are threats of serious or irreversible damage, lack of full scientific certainty should not be used as a reason for postponing such measures”. This precautionary principle applies as much to climate science as it does to economics. Moreover, the NAPAs have provided a clear picture of the urgent and immediate adaptation needs of the Least Developed Countries, and even though the global estimates are imprecise, they give an idea of the magnitude of the problem. There is no uncertainty about the fact that the financial needs for adaptation in developing countries are greater than that which is currently available in the various funds for adaptation.

3. Decisions about the implementation of adaptation activities are the responsibility of individual Parties, based on their national circumstances.

The role of the COP and related bodies is to facilitate adaptation, most importantly by ensuring the provision of adequate financial flows. Consistent with the subsidiarity principle, adaptation actions need to be prioritised and implemented in a country-driven manner at the national or sub-national level, rather than negotiated at the international level. By devolving adaptation decision-making to the national level, coherence with other national priorities (e.g. poverty eradication) can be pursued within national strategies. In addition, discussions on the desirability of stand-alone vs. mainstreamed and project vs. programme activities is then also devolved to the national level.

4. The allocation of adaptation finance to developing countries must be guided by an assessment based on agreed, objective and measurable criteria.

Agreement needs to be reached on measurable allocation criteria that can be used in an objective manner to decide the share of adaptation finance to which eligible countries are entitled. These criteria should then be applied in a rule-based assessment at the national level, rather than to inform decisions on individual projects. Eligibility criteria for adaptation finance have already been agreed in previous COP decisions. A further narrowing of the eligibility criteria (e.g. through a vulnerability index) should be avoided.

5. A substantial degree of consolidation of international adaptation funding streams is required to ensure an efficient, fair and flexible disbursement process.

The current fragmented system of funds: (i) makes it difficult to ensure that eligible countries receive their fair share of adaptation finance; (ii) hampers in-country prioritisation of adaptation activities; (iii) does not allow countries to create synergies between adaptation objectives and other priorities; and (iv) hinders the assessment of developed countries’ compliance with their financial commitments. By ensuring a consolidation of funding streams at the international level, consolidation at the national level becomes a given.

6. A multiplicity of sources will be necessary to provide adequate levels of funding to meet current and future adaptation needs in developing countries.

If funding streams are consolidated at the international level, the use of multiple sources of adaptation finance does not need to result in further fragmentation. Adaptation finance can comprise both voluntary and mandatory financing. Mandatory financing can be provided through: (i) assessed national contributions; (ii) international levies; or (iii) obligations passed on to the private sector, as well as through a combination of these. Mandatory contributions need to be new and additional beyond existing ODA levels, and be certified for verification of compliance. Note also that while resources can be mobilised through the various channels, they should be disbursed in an integrative fashion. Delivering on adaptation, regardless of whether a vulnerability-based or a more impact-focused approach is adopted, will be more efficient and effective through the pooling of available resources for development and adaptation, and the strengthening of existing development processes and mechanisms. The issue of additionality is best addressed at the finance generation stage.

In order to illustrate this last message, figure 9.1 below provides a crude overview of the key financial flows for adaptation finance, and their interrelationships.

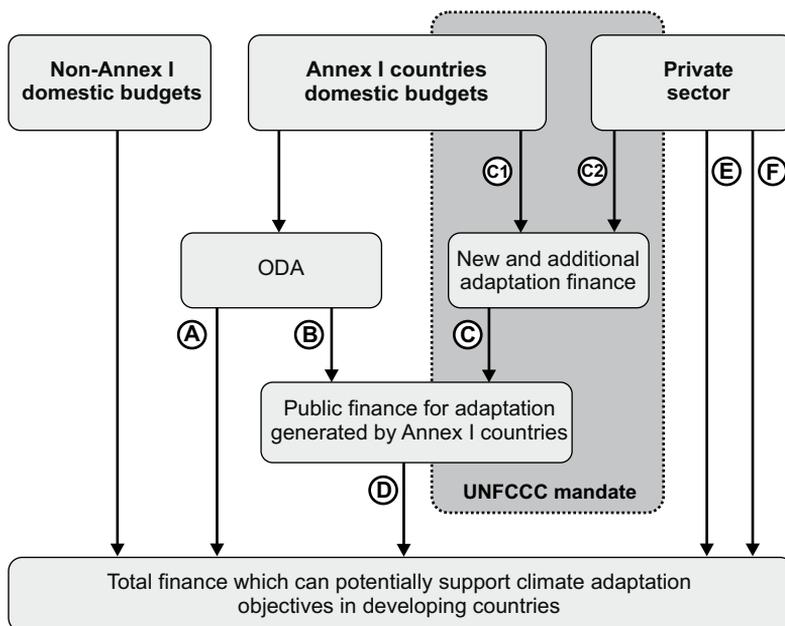


Figure 9.1: Channels for adaptation finance to developing countries

Figure 9.1 illustrates the various channels by which finance for adaptation in developing countries may flow from different sources to delivery points. It also shows how finance generated by different sources relates to the discussions in climate negotiations about the prospect of Annex I countries generating new and additional finance to meet agreed adaptation funding targets.

Description of individual finance flows

A. ODA that is not related to adaptation but needs to take account of future climate risks (i.e. ODA which must be climate-proofed)

B. ODA that is specifically focused on adaptation objectives.

C. New and additional adaptation finance raised by Annex I countries accounted for under the UNFCCC. If national obligations/targets are agreed by Annex I countries, the total amount of Flow C for each country should equal their agreed obligation. There are various options by which Annex I countries could generate the finance needed to meet their targets/obligations at Flow C.

- o Finance could be allocated from national budgets directly (C1), which is how funding under the GEF is presently raised.
- o Finance could also be raised by national governments and/or international institutions by mandating contributions from the private sector (C2) in the form of taxes or levies. This is the model presently used to generate finance for the Adaptation Fund (through an international levy on CDM transactions), and various other similar approaches have been suggested such as a levy on aviation, earmarking revenue raised through auctioning of ETS permits, and so on.

D. The box *Public finance for adaptation from Annex I countries* represents the total financial resources made available through, and accounted for by, public Annex I channels, bringing together both adaptation focused ODA (Flow B) and new and additional adaptation finance (Flow C). There are various possible models for how these funds are subsequently channelled to developing countries (Flow D), depending on the governance model adopted. Individual Annex I contributions:

- o can be brought together into a single pool at the international level and then dispersed (e.g. the model of the Adaptation Fund). Decisions on the use of finance can then either be: (a) *devolved* to developing countries, in which case this funding pool would be transferred to the various national budgets of eligible developing countries; or (b) *centralised* under the UNFCCC or other body, as under the GEF and the Adaptation Fund, in which case this pool would be used to directly support individual projects and programmes in developing countries; or

- o can be *channelled directly* from individual Annex I countries to individual [eligible] developing countries (the model of bilateral ODA and adaptation flows).

To ensure transparency, accountability and equity in the distribution of finance, the former is likely to be the most suitable model (i.e. some form of centralised pooling of finance and then distribution).

E. New finance raised from the private sector specifically to assist with adaptation efforts (e.g. through climate funds which provide loans and/or equity for adaptation projects, or through philanthropy).

F. Finance invested by the private sector in developing countries which is unrelated to adaptation (i.e. foreign direct investment) but which has the potential to either contribute to or degrade the adaptation efforts of developing countries. This should be climate-proofed to prevent adverse outcomes from an adaptation perspective.

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ANNEX I SUMMARY OF PARTY POSITIONS ON ADAPTATION UP TO APRIL 2009

Table 10.1: Summary of party positions on adaptation up to April 2009

Proposal	Delivery	Governance	Sources	Principles
Lesotho for LDCs	A comprehensive and structured approach to support, on an ongoing basis, efforts to enhance national capacity to incorporate adaptation considerations into the national development process and to implement stand-alone adaptation efforts to develop and implement measures, including planned international migration, to promote coherence in the way that adaptation issues are addressed under the UNFCCC, to facilitate access to means of implementation.	A Subsidiary Body under the Convention with a majority of members from developing countries focusing on the provision of financial resource and technical support, compatible with Convention principles. A Convention Fund, including solidarity funds to address catastrophic, and to enable and support developing countries in implementing programs or projects, including those identified in the NAPAs or NAPs ensuring direct access to financial resources. A Work Programme on Adaptation for i) implementation of existing NAPAs before 2012, and ii) creation of NAPAs for other countries post-2012.	An Adaptation window, under the framework of the G-77 proposed Financial Mechanism based on assessed contributions from Annex I countries and other possible sources of finance, compatible with Convention principles. Financing must be predictable and stable, new and additional, adequate and timely for both urgent and long term, provided from the assessed contributions, additional to ODA. It must enable and support efforts, including high-priority ones, on an ongoing basis, to enhance national capacity to incorporate adaptation concerns into the development process ;	Be strictly guided by equity and the principle of common but differentiated responsibilities and respective capabilities under the Convention; Be comprehensive, ranging from vulnerability to response capacity assessments (and their implications for allocating resources), planning implementation, to monitoring and evaluation; Distinguish between, (i) adaptation to short-term climate shocks, due to increasing numbers of extreme events; and (ii) adaptation to long-term shifts in climatic conditions; Distinguish between, and balance the needs for finance for adaptation programmes and plans that are (i) integrated with development planning; and (ii) stand-alone programmes which are additional to national development planning, and which should be financed at full costs;

China	<p>Prepare National Adaptation Programmes of Action in all developing and Identify priority activities/projects intended to address urgent and immediate adaptation needs and integrate climate change considerations into their relevant social, economic and environmental policies and actions.</p>	<p>“Regional Adaptation Network Centers” in Asian, African, Pacific, South American to provide research, enhance capacity to integrate adaptation into sustainable development programmes; etc. An “Adaptation Committee” to enhance adaptation actions to provide guidance for enhancing adaptation, planning, capacity building, information sharing, monitoring and evaluating adaptation actions. An Adaptation Fund under the Convention to support and enable developing country Parties to prepare NAPAs; Integrate adaptation actions into sectoral and national planning; etc.</p>	<p>Annex I Parties shall provide necessary financial resources, including assessed contributions to support and enable developing country Parties to prepare and implement NAPAs.</p>	<p>Developed country Parties shall fulfill their commitments as stipulated in Article 4.3, 4.4, 4.5, 4.8, and 4.9 under the Convention and provide new, additional, adequate, and predictable resources for the implementation of adaptation.</p>
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Proposal	Delivery	Governance	Sources	Principles
<p>EU, submitted in Accra</p>	<p>A Framework for Action on Adaptation (FAA), a partnership between developed and developing countries, providing the arena to mobilise and incentivise actions of Parties and stakeholders in the public and private sector help ensuring effectiveness of adaptation actions, and could guide the financial mechanism operating within the context of the UNFCCC, and be considered by multilateral and bilateral organisations.</p>	<p>FAA for coordination and cooperation between the ISDR system as well as the IASC and UNFCCC process would be promoted, not only in the area of information exchange but also in terms of the optimisation and effective use of resources in preparing institutions to plan and address future impacts of climate change. NCs could be used as a basis to communicate information on efforts made by Parties to prepare, develop and implement adaptation measures. Adaptation Fund so that it can play its full role in the financial architecture of the Copenhagen Agreed Outcome (Bonn): There is need for coherence with institutions elsewhere and the UNFCCC plays a role in improving coherence)</p>	<p>Simplified, transparent and straightforward procedures to ensure access by developing countries to adaptation; Engage public and private sector. An international financial architecture to optimise and mobilise predictable, sustainable and new, additional and adequate investment and financial flows from various sources (including the private sector, the carbon market, public sector and innovative instruments). A broad toolbox which can leverage private and public financial flows. Governments will have a critical role in both adjusting their public spending to take account of climate risks and in providing the tools, climate information and enabling environments to help their citizens and private sector factor in climate risks, attract investments and optimise use of resources.</p>	<p>Particular attention to the vulnerable Development and integration of adaptation actions into national and sectoral planning processes Tailor to particular impacts on and circumstances of the country or region affected, and measures should be implemented at the local, regional or national level consistently and coherence with national development. Reconcile a project based approach with one that integrates adaptation needs into development support the implementation of the NAPAs that have been prepared or are under preparation.</p>

<p>Africa group, submitted in Accra, revised in April 2009</p>	<p>A consolidated work programme on adaptation must to facilitate a shift in focus from vulnerability assessment to the implementation of the adaptation and facilitate coherence and access to means of implementation reflecting indigenous knowledge and practice</p>	<p>The institutional framework for the implementation of adaptation to facilitate, promote coherence in the way that adaptation issues are addressed under the UNFCCC, and facilitate linkages. Access to means of implementation (finance, technology and capacity building) for implementing urgent and immediate adaptation action, at regional and country level</p>	<p>Not defined in that submission. In Bonn, they were in support of the G77 proposal.</p> <p>Be massively scaled-up, beyond the integration of adaptation into the development process, and include stand-alone adaptation projects.</p> <p>Include the mobilisation of new resources, beyond the existing funds under the Convention and its Protocol;</p> <p>Be based on the effective use of projection scenarios, early warning systems, vulnerability mapping, and risk assessment to identify priorities, for short term and long term adaptation; Be undertaken in the context of the principles and commitments of the Convention; Be country driven</p>
<p>Japan **</p>	<p>An information-sharing mechanism</p>	<p>A clearing house where countries present their needs and these are matched with the most adequate existing financing channels.</p>	<p>Scale up resources in existing financing channels</p> <p>Targeted to the most vulnerable</p> <p>** Based on presentation in Bonn –currently finalising proposal</p>

Proposal	Delivery	Governance	Sources	Principles
<p>G77 position presented during AWG-LCA 5</p>	<p>A comprehensive Adaptation Framework, include a mechanism to address loss and damage including insurance and requires compliance.</p>	<p>Implementation arrangements to address enabling activities, such as knowledge sharing; functional implementation, and projects on the ground by national, local, and regional stakeholders; and coordination mechanisms. This framework should also include a mechanism to address loss and damage including insurance and requires compliance.</p>	<p>A window for adaptation in line with the G77 proposal on finance presented in Accra, which would be required accessed contributions from Annex 1 Parties of 1% GDP. Establish new, additional and predictable financial resources separate and apart from ODA that are supported by appropriate institutional mechanisms;</p>	<p>Principle of common but differentiated responsibilities under the Convention guided by equity and precautionary principles; Promote coherence in the way that adaptation issues are addressed under the UNFCCC; Encompass broader principles, including vulnerability, for allocation of adaptation resources; Cover full and incremental costs for adaptation technologies and for stand-alone adaptation projects.</p>

<p>AOSIS, Submission in Poznan</p>	<p>A structured but flexible approach to adaptation that provides for national-level adaptation planning and implementation mechanisms, building on existing processes and methodologies where available and appropriate, for example national reports including NCs or NAPAs as appropriate through an Convention Adaptation Fund and a Multi-Window Mechanism to Address Loss and Damage .</p>	<p>Institutional arrangements under the Convention process to co-ordinate adaptation efforts at the international and regional levels to support country-driven priorities. Establish A Permanent Adaptation Committee (PAC) under the Convention; A Multi-Window Mechanism and a Multi-Window Mechanism Board would provide oversight and have a transparent governance structure. In addition, A Technical Advisory Facility and a Financial Vehicle/ Facility would provide support to all three components, providing different services to different components, and a Technical Advisory Facility would provide advice and assistance, and receive input from the insurance and reinsurance sectors, the disaster risk reduction community, UN agencies and other organisations. The UNFCCC secretariat would provide administrative support.</p>	<p>Assessed contributions based on the level of countries' GHG emissions, taking into account their respective levels of development and ability to pay as well as historical responsibilities. Sources: International revenue generation schemes including Auctioning of a percentage of national mitigation allocation schemes, International Levies, Voluntary contributions from developed and developing countries and philanthropic organisations over and above assessed contributions.</p>	<p>New and additional – A significant injection of new money is required separate and apart from traditional ODA and the 0.7% target, and specifically devoted to adaptation; Predictability; Grant-based consistent with the polluter-pays-principle financing to developing countries for adaptation; Priority access for the most vulnerable – Particularly SIDS and LDCs; A New Approach to Governance; and Coherence and coordination at the international level among all actors and utilising the Convention as the fulcrum for action.</p>
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Proposal	Delivery	Governance	Sources	Principles
Australia submitted April	Preference for main-streaming; develop NAS with assistance for particularly vulnerable. NAS would establish objectives for adaptation actions beyond urgent and immediate needs and ensure a more dynamic and long-term needs with emphasis on programs approaches with reporting through NCs.	Transforming the LEG into an (1) Adaptation Advisory Panel to develop broad guidance for developing NAS and provide support for particularly vulnerable countries, and (2) Regional Centers to harness existing expertise and in facilitating knowledge exchange.	Scaling up in the level of international finance availability for adaptation, and (2) clear guidance on the prioritisation of the distribution and use of international funds (stated in Poznan).	Country-driven, involving all relevant stakeholders; developed and implemented in the context of broader sustainable development and informed by continuous learning and evidence-based vulnerability assessment processes.

<p>Brazil, submission April 2009</p>	<p>Build access to means of implementation including finance, technology, capacity building, and knowledge sharing for adaptation at national, sub-national, regional and subregional levels for the implementation of nationally determined adaptation priorities</p>	<p>Develop appropriate linkages with other national, subregional, regional and international bodies and stakeholders that are implementing adaptation and related activities; (1) establish national and regional centers, or strengthen existing ones, for the development of analytical tools to enable scenario generation and downscaling for current and future impact assessments; the research, development and transfer of adaptation technologies, including for, inter alia, in the areas of food, forestry, water resources, human health, industry, human settlements and society; awareness raising; support of pilot projects; and publication of studies on adaptation. (2) Establish a mechanism, under the Convention, which could enable and support the creation of partnerships among companies and research institutions of developed and developing countries for adaptation technologies and the implementation of adaptation activities. (3) An a mechanism to address loss and damage including insurance</p>	<p>Be predictable and stable, new and additional, adequate and timely, both urgent and long term; be provided from the assessed and mandatory contributions of developed countries as part of their commitments under the UNFCCC to enable and support efforts, including high-priority ones, on an ongoing basis going beyond the integration of adaptation into the development process, include stand alone adaptation projects and be separate and apart from ODA channels; and ensure direct access to financial resources.</p>	<p>-Principle of common but differentiated responsibilities under the Convention and be strictly guided by equity. -Promote coherence in the way that adaptation issues are addressed under the UNFCCC; -Projects and programmes on adaptation to the adverse effects of climate change must be country-driven; -Implementation of adaptation actions should take into account specific characteristics of sub-national and national, and subregional and regional vulnerability assessments; -Cover full costs for adaptation technologies and for stand-alone adaptation projects, not jeopardise the developing countries' efforts to alleviate poverty as part of sustainable development planning;</p>
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Proposal	Delivery	Governance	Sources	Principles
Nicaragua submission in April	Preparation, implementation and NAPAs or NCs, or TNAs for adaptation and mitigation and design and implementation of adaptation programmes and projects;	Ruled by the COP with the support of a new subsidiary body on adaptation, and of an Executive Board responsible for the management of the new funds and the related facilitative processes and bodies. The current Convention secretariat will operate as such, as appropriate. The Convention's financial mechanism will include three new funds: Adaptation Fund, Multilateral Climate Technology Fund (MCTF); and a Mitigation Fund, including a scheme for positive forest incentives relating to REDD options. The Convention's facilitative mechanism will include: work programmes for adaptation and mitigation with an expert group on adaptation established by the subsidiary body on adaptation.	The transfer of financial resources from the Adaptation Fund under the Kyoto Protocol up to 2% CDM + proceeds from the sale of emission reduction units from joint implementation projects and from the auctioning of assigned amount units from the emissions trading + A solidarity fund based on a levy on international airfares and maritime transport freight + A global carbon tax based on a levy on fossil fuel consumption + Innovative financial instruments such as capital risk or climate safety funds.	Agreement on SY should be linked to a series of more specific and mutually coherent agreements on the mitigation, adaptation, technology and financing issues, which should be respectively included in a series of COP decisions so as to complement the framework decision on the shared vision.

<p>South Africa, submission April 2009</p>	<p>A comprehensive and action-oriented international programme on adaptation implementation is established, aimed at reducing vulnerability and building resilience with a mechanism to address all aspects of the means of implementation for developing countries.</p>	<p>A national coordinating body to address all aspects of the means of implementation, strengthening the institutional capacity of national focal points and all stakeholders. This coordinating body will be the national "focal" point to support the implementation of climate change projects and programmes that have received technology, finance and capacity building assistance from developed countries in line with their commitments under article 4 of the Convention. International financial resources made available specifically for this purpose. A separate pool of funding to finance national coordinating bodies through a direct line item in the secretariat's budget shall be established.</p>	<p>Not Specified in the Submission</p>	<p>A country driven, coordinated and multi sector approach involving all national stakeholders, private and public An equitable, efficient and effective use of funding Transparent and inclusive involvement of all stakeholders A programmatic approach to funding rather than a project based approach</p>
<p>New Zealand</p>	<p>A Framework on Adaptation to create enabling environments, building capacity and strengthening regional centres of expertise. It should be non-prescriptive, and should aim to strengthen mechanisms under the Convention to manage and reduce risk, and for adaptation</p>	<p>Build on and enhance what already exists under the Convention (e.g. NWP), in existing regional centres, and in other international efforts, such as the UN International Strategy for Disaster, with aim to increase coherency among them.</p>	<p>Parties may provide financial resources for adaptation to the adverse effects of climate change through bilateral, regional and other multilateral channels with widely accepted principles of mutual accountability centralised funds under Convention , as well as through bilateral, regional and other multilateral channels (as per article 11 paragraph 5 of the Convention).</p>	<p>(a) States have the primary responsibility for implementing measures to reduce climate change risk and to adapt to the adverse effects of climate change; (b) it must be integrated into development; (c) Capacity-development is a central ; (d) Community participation. (e) Customised to particular settings, (f) priority to the most vulnerable countries.</p>

ANNEX II SCENARIOS FOR CARBON MARKET OPTIONS

Table 10.2: Carbon Markets - scale of funding

	2012		2020	
(All numbers in billions of Euros)	Low	High	Low	High
CDM Levies				
Continuation of current levy (2%)	0.05	0.3	0.05	0.9
Increase levy to (up to) 5%	0.1	0.8	0.1	2.2
Extension to JI	0.02	0.1	0.02	0.1
Issuance auction (or carbon bank)	1.5	9.8	1.5	29.5
Taxing IET transactions				
International Allowance Value				
At 2%	2.5	6.2	2.2	10.1
At 5%	6.2	15.5	5.6	25.3
Domestic ETS Allowance Value				
At 2%	0.5	1.2	0.4	5.3
At 5%	1.2	3.0	1.0	13.2
International aviation levy**	6.7	8.3	9.9	12.4
International marine levy*	4.0	15.0	4.0	15.0
Global Carbon Tax*	18.4	18.4	18.4	18.4
* Taken directly from UNFCCC 2009c; no differentiation over time				
** Near-term values from LDC Group (2009), escalated at 5.1%/year.				

The Bali Action Plan, adopted in December 2007 at the thirteenth session of the Conference of the Parties to the United Nations Framework Convention on Climate Change (UNFCCC COP 13), raised the political status of adaptation and opened discussions on international adaptation finance. Since COP 13, financing has in fact proved to be a stumbling block in the climate change negotiations.

This report provides a comprehensive account and analysis of the issues and principles at the root of this impasse. It also presents options for reaching an agreement on adaptation financing as part of a Copenhagen Agreed Outcome at COP 15 in December 2009. It submits that such an agreement is vital to reaching a post-2012 international agreement on climate change.



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