

SESSION V: FINANCING ADAPTATION: FOOTING THE BILL
SUNDAY, AUGUST 3, 9:00-11:30 A.M.

FINANCING ADAPTATION: OPPORTUNITIES FOR INNOVATION AND EXPERIMENTATION

Manish Bapna and Heather McGray

World Resources Institute

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EXECUTIVE SUMMARY:

The urgency and scale of the climate crisis is raising the prominence of adaptation funding in climate negotiations. Needs estimates for financial resources fall within the magnitude of tens of billions of dollars per year. Responding to specific climate impacts and reducing climate vulnerability constitute two different approaches to adaptation which can confuse financing targets and mechanisms. To address this problem, we frame adaptation finance into three stages: generating, channeling and implementing. In each stage, we explore different options and identify means of evaluating each option. Examining budgetary allocation and market-based levies reveals nuances with regards to the magnitude, predictability and additionality of funds. Debates over the correct financing institutions expose similar distinctions, and will likely result in fragmentation. Finally, the variety of implementation policies indicates cleavages in approach, ranging from discrete project planning to complete mainstreaming. Finance innovations will not only help developing countries adapt to climate change, but may also inform and shape the future of development assistance more broadly.

Climate change is upon us. The earth is warming, seasons are shifting, species are moving, and water is flowing at different times and in different amounts. The accelerating and deepening impacts of climate change will touch everyone on earth in some way, but those who stand to suffer most are the poor. People and governments must find the will and the means to slow, stop, and reverse the buildup of global warming gases in the atmosphere to avert catastrophic warming. But it is already too late to avert serious consequences, so we must also learn to adapt to a warmer world. The question of how humanity adapts to climate change is a pressing issue for national and international agencies tasked with providing financial and technical assistance to reduce poverty in developing countries. As leaders begin to consider policies and measures to respond to mounting climate effects, it is critical that adaptation efforts be designed to support the poorest communities in their development efforts. Likewise, development assistance must foster adaptation if it is to succeed under a changing climate. That the poor are the people least responsible for global warming makes these efforts all the more imperative.

This paper explores the opportunities and challenges in financing adaptation efforts in developing countries. The last two years have seen a surge of interest in adaptation finance with new funding proposals floated on an almost weekly basis. How much will adaptation cost? Which proposals are most likely to generate an adequate and predictable flow of funds? How should these funds be channeled so that they reach those most in need? How do we ensure adaptation funds are used most effectively?

This paper seeks to address the above questions. It starts by providing a conceptual model for looking at the relationship between adaptation and development (Section I), then reviews estimates of adaptation costs (Section II) and existing sources of adaptation finance. Section III assesses approaches to generating new finance from public sources, with an eye to the United Nations climate negotiations and the looming December 2009 deadline for reaching a new agreement in Copenhagen. Section IV looks at options for channeling adaptation funds to developing countries, and Section V raises key implementation issues in the context of development planning. A key message emerging from this paper is the present window of opportunity to test new, big ideas to generate, channel, and implement new adaptation resources. Given the challenge we are facing, this is an opportunity not to be missed.

FRAMING ADAPTATION AND DEVELOPMENT

Efforts to adapt to the changing climate are intricately tied up in the broader challenges of natural resources management, poverty reduction and equitable and sustainable growth. These interconnections have led to contentious debates about what adaptation actually is, how it should be paid for, and how to integrate it into national and international development agendas.

Two roughly distinct perspectives inform how people approach the challenge of adaptation: one focuses on creating response mechanisms to specific impacts associated with climate change, and the other on reducing vulnerability to climate change through building capacities that increase resilience to climate-related stresses. In practice, many instances of adaptation fall between these extremes of orientation toward impacts or vulnerability.

The range of adaptation activities can be framed as a continuum of responses to climate change, from ‘pure’ development activities on the one hand to very explicit adaptation measures on the other. At one end of the continuum, the most vulnerability-oriented adaptation efforts overlap almost completely with traditional development practice, where activities take little or no account of specific impacts associated with climate change. At the opposite end, activities exclusively target distinct climate change impacts, and fall outside the realm of development as we know it. In between lies a broad spectrum of activities with gradations of emphasis on vulnerability and impacts (see figure 1).

Figure 1.



Source: Adapted from Heather McGray, Anne Hammill, Rob Bradley, E. Lisa Schipper and Jo-Ellen Parry, “Weathering the Storm: Options for Framing Adaptation and Development,” World Resources Institute, 2007.

In the climate change financing debate, there has been a tendency to emphasize the right side of the continuum, where activities address the ‘additional costs’ of solving problems attributable directly to climate change. Many activities toward the left end of the continuum focus largely on problems not exclusively caused by climate change, yet they represent the very foundation of adaptation to climate change in many places. Failure to make such investments may leave gaps in the landscape of adaptation efforts, and these gaps may arise where people are already especially vulnerable. Thus, while the overarching need for ‘additional’ funding for adaptation is clear, projecting this need universally onto adaptation efforts at the operational level risks leaving much-needed interventions unfunded. In other words, *adaptation is not just additional to development but is often development.*

MEETING THE COST OF ADAPTING TO CLIMATE CHANGE

The impossibility of disentangling adaptation from development has complicated efforts to estimate adaptation costs in developing countries. However, several “back-of-the-envelope” global cost exercises have recently been completed (see table 1). All five estimates fall in the tens of billions of dollars per annum—a nontrivial amount, especially when compared to current levels of official development assistance (ODA) of about US\$100 billion per

annum.¹ While these estimates all carry high uncertainties (as they are based on quite rough assumptions), they make it clear that climate change will increase the costs of economic development.²

Table 1. Annual Adaptation Costs in Developing Countries

<u>Assessment</u>	<u>Annual Cost</u>	<u>Year</u>
UNDP 2007	\$86 billion	2015
UNFCCC 2007	\$28-67 billion	2030
World Bank 2006	\$9-41 billion	present
Oxfam 2007	\$50 billion +	present
Stern Review 2006	\$4-37 billion	present

These estimates also point to the challenge of generating support for adaptation at a scale that can make a difference. The current level of adaptation funding for developing countries is orders of magnitude below even conservative estimates of costs. International sources of adaptation funding flows mainly through two types of mechanisms: dedicated multilateral adaptation funds and ODA. In addition, developing countries invest in adaptation through domestic revenue.

Existing international sources of funding

Table 2 shows the multilateral adaptation funds sponsored by the United Nations Framework Convention on Climate Change (UNFCCC) and how much has been pledged, received and distributed (as of March 2008) for each of these funds.³

Table 2. UNFCCC Adaptation Funds in operation

US\$ million	Description	Total Pledged	Total Received	Total Distributed
Least Developed Countries Fund	Supports preparation and implementation of National Adaptation Plans of Action	172.8	91.8	12.3
Special Climate Change Fund	Focuses on development; activities should be country-driven, cost-effective and integrated into national poverty reduction strategies	75.6	59.9	1.4
GEF Trust Fund Special Priority on Adaptation	Finances adaptation activities that also generate global environmental benefits	50	50	14.8

¹ UNDP, *Human Development Report 2007/2008: Fighting Climate Change: Human Solidarity in a Divided World* (New York, 2007): 192-194; S. Agrawala and S. Fankhauser, eds., *Economic Aspects of Adaptation to Climate Change: Costs, Benefits, and Policy Instruments* (Paris, OECD, 2008): 69.

² Agrawala and Fankhauser, 75.

³ WRI forthcoming.

Total		298	202	29
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Total resources pledged for these adaptation funds is \$298 million but the actual amount disbursed is \$29. The Global Environmental Facility (GEF), an intergovernmental organization launched in 1991 to channel funding to support implementation of a number of global environmental agreements, has been entrusted with managing these funds.

ODA represents a much larger sum of money—notionally \$100 billion although considerably less (some argue less than \$40 billion) is actually oriented towards long-term development programs.⁴ Current ODA levels fall far short of the commonly cited global target of 0.7 percent of gross domestic product (GDP) and donors are under heavy pressure not to substitute ODA for adaptation finance. It is highly unlikely therefore that developed countries will make ‘new and additional’ ODA pledges (above the 0.7 percent target) sufficient to fill what is now being referred to as the adaptation funding *chasm*.

Domestic sources of funding

Developing countries’ domestic investments in adaptation are growing, and are likely to become significant over time. However, these investments are not now well studied and may be challenging to assess. Anecdotal evidence suggests that emerging approaches to domestic adaptation spending are very country-specific and not yet well coordinated. In many places, early action is being taken by sub-national government actors, making adaptation finance highly diverse and decentralized.⁵ A more centrally driven approach was legislated by the Sri Lankan parliament in passing a 2008 environment levy that would be used, in part, to fund adaptation. However, parliamentary tactics used to pass the legislation elicited widespread public condemnation, making the future of the levy highly uncertain.⁶

GENERATING “NEW AND ADDITIONAL” ADAPTATION FUNDING

The expectation that adaptation funding will increase is grounded on the moral and practical claim that wealthier countries bear a much larger share of responsibility for historical and current greenhouse emissions, and have greater financial and technical resources. This obligation is made explicit in the UNFCCC, which requires developed countries to “assist developing country Parties that are particularly vulnerable to the adverse effects of climate change in meeting the costs of adaptation to those adverse effects.”⁷ The UNFCCC also stipulates that this support must be ‘new and additional’ to existing ODA pledges and targets.⁸ But how will these new resources be generated? Have existing adaptation funding mechanisms fared well? Which proposals are most likely to generate an adequate and predictable flow of funds?

⁴ Homi Kharas, “The New Reality of Aid,” in *Global Development 2.0: Can Philanthropists, the Public, and the Poor Make Poverty History?* eds. Lael Brainard and Derek Chollet (Washington: Brookings Institution Press, 2007): 1.

⁵ For example, see the local government actions highlighted by the International Coalition for Local Environmental Initiatives at a three-day workshop in Bali in 2007 at <http://www.iclei.org/index.php?id=7127>.

⁶ Rohan Samarajiva, “What is best for Sri Lanka’s environment: Tax or incentives?” Lanka Business Online, March 31, 2008 [<http://www.lankabusinessonline.com/fullstory.php?nid=1625942485>].

⁷ UN, “United Nations Framework Convention on Climate Change” (Bonn, 1992): 8, Article 4:4.

⁸ Ibid: 8, Article 4:3.

Options for Generating Adaptation Finance

Given the level of resources required, the climate and development communities are discussing a wide range of public funding mechanisms, some more innovative than others. They can be clustered around three broad headings: (a) national budgetary allocations; (b) national market-based levies, and (c) global market-based levies.

(A) National Budgetary Allocations

Existing UNFCCC adaptation funds (table 2) follow a traditional budget-line item approach to international financing. Donor countries make pledges and later generate (or not) the funding to support the pledge through domestic policy processes, usually annual budget appropriations. At present, about \$96 million of the \$298 million that has already been pledged to the UNFCCC adaptation funds is still outstanding. While these pledges are generally considered to be reliably additional to other related spending, calls for outstanding pledges to be honored and funds to be fully committed would generate only modest incremental funds for adaptation.

One of the reasons that the UNFCCC funds are so small is that the UNFCCC has no specific targets for donations; the size of donor countries' contributions was left to each donor's discretion. To rectify this in the post-2012 regime, a number of countries have put forward proposals for donation targets that would begin to be commensurate with estimates of adaptation costs. China, for instance, has proposed that developed countries should allocate 0.5 percent of their GDP to support actions taken by developing countries to tackle climate change. This would currently amount to \$185 billion per year for mitigation, technology transfer and adaptation together.⁹ The proposal, however, does not provide details on how the funds would be earmarked, or for that matter, details on much else at all. But it does reflect an expectation by China of significant resource transfers between developed countries responsible for historical greenhouse gas emissions and developing countries who will bear the brunt of impacts from those emissions. This proposal, however, exposes a challenge in the distinction between those countries that cause the climate problem and those that will face most of the impacts. With China now the world's largest emitter of green house gases (GHGs) on an annual basis but responsible for only a very small portion of historic emissions, it is not clear whether or when it should move from being a net recipient to a net contributor of such funds.

Mexico has put forward a quite a different funding model which speaks in part to this fact. They advocate establishing a World Climate Change Fund, multilaterally agreed, that would scale up global efforts on mitigation and adaptation based on contributions from *both* developed and developing countries. Targets for country contributions would be determined using an objective formula based on greenhouse gas emissions, population and GDP. Responsibility for emissions and capability to pay would therefore determine each

⁹ B. Müller, "International Adaptation Finance: The Need for an Innovative and Strategic Approach," Oxford Institute for Energy Studies, EV 42 (2008).

country's target contribution. An adaptation levy would be assessed on all disbursements from this fund. A levy of 2 percent would generate up to \$1.9 billion annually by 2030.

(B) *National Market-based Levies*

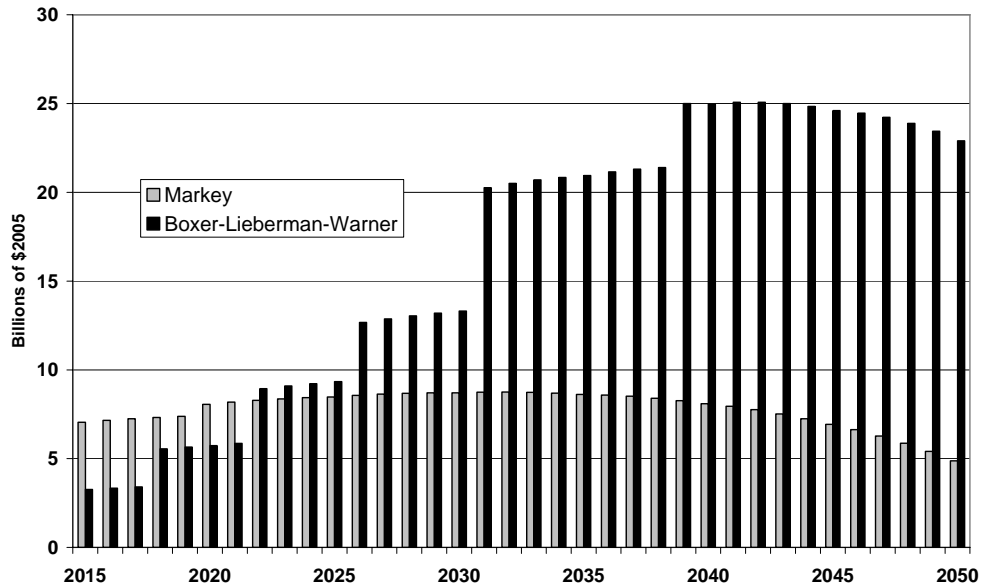
Several innovative ideas have emerged that would catalyze funding for adaptation through national levies on market-based transactions, instead of annual budget appropriations. The most promising of these policies have revolved around the design of greenhouse gas markets under cap-and-trade climate policies. Others would tax markets in existing goods and services, such as airplane flights. There are two defining characteristics in these examples: 1) funding is generated 'automatically' over a period of years, rather than through annual budgetary decisions that often are susceptible to the vagaries of domestic politics, and 2) funding accrues to national governments.

Greenhouse Gas Markets

In both the United States and the European Union, proposals are on the table to create adaptation funds that would be capitalized by revenues from auctioning emissions rights to polluters under cap-and-trade programs. Climate bills introduced in the U.S. Congress, for example, assign a certain percentage of annual auction revenues each year to international adaptation efforts (see figure 2). The World Resources Institute estimates that the Boxer-Lieberman-Warner bill, introduced in May 2008, would generate approximately \$3 billion annually for international adaptation in the first three years of the program, increasing to as much as \$25 billion per year over time. Estimates based on the same models suggest that the Markey bill introduced in the U.S. House of Representatives in June 2008 could generate as much as \$7 to 8 billion for international adaptation per year.¹⁰

Figure 2. Potential auction revenue designated for international adaptation under selected U.S. Congressional legislative proposals, 2015-2050.

¹⁰ Estimates are in 2005 dollars, derived using carbon price models by the Massachusetts Institute of Technology's Joint Program on the Science and Policy of Climate Change (see <http://web.mit.edu/globalchange/www/abstracts.html#a146>). Those for the Markey bill are from analysis of a hypothetical bill with comparable stringency. The MIT prices are high compared to other studies, so this paper may overestimate auction revenues potentially available for adaptation under these policies.



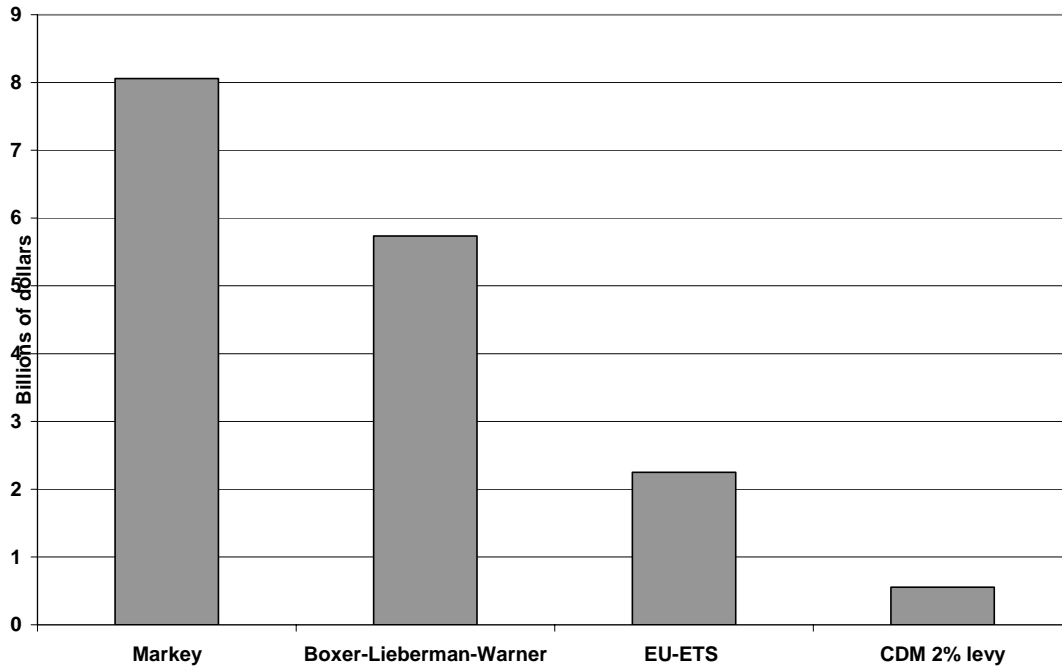
The European Union Emissions Trading Scheme (EU ETS) is another potential source of adaptation funding. Annual auction revenues are estimated at €75 billion (\$113 billion) in 2020, of which 20 percent would be dedicated to climate-change related activities, including efforts “to facilitate developing countries’ adaptation to the impacts of climate change.”¹¹ Early estimates suggest that this could generate up to €1.5 billion (\$2.3 billion) annually in adaptation related revenues in 2020.¹²

Figure 3 compares estimates of potential revenue in 2020 generated by US and EU greenhouse gas market proposals. The funding these proposals could generate are nontrivial, orders of magnitude above current funding levels for international adaptation.

Figure 3. Potential revenue designated for international adaptation under selected international proposals, 2020.

¹¹ Müller, 2008.

¹² Ibid, 13.



However, a challenge in generating funds from greenhouse gas markets is that both the amount of resources and how they are allocated are vulnerable to shifting domestic political interests – although much less so than annual budget allocations (as typical of ODA).

Indeed, though this prospective source of finance looks encouraging, it is important to recognize that no such source exists as of yet. The European Union has an operational ETS, but has very little scope to influence decisions about how auctioning revenues are to be spent by the member states. Individual countries jealously guard their independence in budgetary matters: some may choose (e.g. Germany) to steer revenues to international adaptation, some will not. Similarly in the United States the battle over how revenues will be spent is just beginning, and many domestic constituencies will exert strong sway over policymakers. Nevertheless, in both systems the scope to raise considerable sums of finance looks promising.

Air Travel and Shipping Levies

Levies on international air travel and shipping represent potential new sources for adaptation funding that is predictable year-on-year. Establishing a levy of \$7 per passenger on each international flight, for example, would result in \$14 billion in additional revenues annually.¹³ An attractive feature of the international air travel adaptation levy proposal is that it is equitable. It imposes the levy on a highly-polluting activity and on individuals, irrespective of their country of origin. This proposal overcomes the more crude distinction typically made on the responsibility for emissions and capacity to pay between developed and developing countries (i.e. that irrespective of income and lifestyles, no one in developing

¹³ UNDP, 195.

countries should pay for adaptation). This is particularly relevant in light of the burgeoning middle classes in China, India and other emerging economies.

A precedent already exists for channeling air travel levies for global public goods. France has started collecting an ‘international solidarity contribution’ on all its international flights to generate revenues for HIV/AIDS (see box 1).

However, not all countries are receptive to air travel levies nor agree on what these levies should finance. Unlike the greenhouse gas markets, which are being created from scratch, air transit market participants already have a status quo to which they are accustomed. Moreover, they are already in the process of adjusting to a significant number of new security-related taxes and fees in their industry. Considerable political hurdles must be overcome before air travel levy proposals can seriously be considered a potential revenue source for international adaptation.

(C) *Global Market-based Levies*

Box 1. Taxing Air Travel to Support Development

The French “solidarity tax” on air travel provides a frequently cited example of how innovative financing mechanisms for adaptation could work. The tax of 1 to 40 euros per flight (depending on the distance traveled and class of the ticket) is used to support achievement of the Millennium Development Goals. In its first phase, the funds raised are channeled through UNICEF, an initiative of the World Health Organization, to scale up access to treatment for HIV/AIDS in low-income countries, particularly in Sub-Saharan Africa.

French President Jacques Chirac first proposed the tax at the World Economic Forum in 2005 and called on other nations to implement similar policies on behalf of the world’s poor. While France remains by far the most active participant (generating nearly 90 percent of funds), 44 countries have signed on, and levies have raised over \$300,000 per year in a predictable and sustainable flow of funds. This allows UNICEF to make long term plans and commitments without diverting funds from ODA budgets.

Market-based instruments operating in the ‘global’ or ‘international’ space, outside of the purview of any single national government, represent a third category of financing mechanisms. The Kyoto Protocol levy on the Clean Development Mechanism (CDM)¹⁴ is the iconic—though largely untested—example of a truly global funding instrument. Through this levy, 2 percent of emissions reduction credits generated by CDM projects will be placed in a global Adaptation Fund created under the Kyoto Protocol and used to support adaptation in developing countries. Total income generated by sale of the credits could be in the range of \$160-950 million by 2012 and potentially much more in subsequent years, depending on prices and trade volumes.¹⁵

The truly innovative feature of the CDM levy is that resources are generated from the private sector and collected by a multilateral body, not a national government. In so doing, the mechanism avoids the ‘domestic capture’ problem faced by the market

¹⁴ The Clean Development Mechanism (CDM) is the world’s largest functioning “carbon offset” program. Through the CDM, emission reductions in developing countries are financed by industrial countries to offset a portion of their own emissions, which are capped. Under Kyoto Protocol rules, credits issued for these offsets allow industrialized countries to increase their emissions (effectively increasing the “cap”), on the premise that net emissions to the atmosphere remain the same. The projects through which emissions are reduced are also supposed to support sustainable development in the host country.

¹⁵ UNDP, 189.

mechanisms discussed above—the problem that money raised domestically is likely to be regarded as nationally owned, and proposals to allocate significant amounts of these resources could encounter stiff political resistance.¹⁶

Related proposals currently discussed include increasing the 2 percent levy on CDM transactions to 3 to 5 percent and extending the levy to other instruments established under the Kyoto Protocol, such as Joint Implementation (emission reduction ‘offset’ projects between developed countries) and Emission Trading (emissions rights trading under a cap).¹⁷ Table 3 provides an estimate of potential revenue sources for the Adaptation Fund.

Table 3. Potential Revenue Sources for Kyoto Protocol Adaptation Fund

<u>Adaptation Fund</u>	<u>Annual Revenues</u>	<u>Year</u>
2 percent CDM levy (current)	\$160-950 million	2012
5 percent CDM levy (Pakistan proposal)	\$400-2,375 million	2012
Extension of 2 percent levy to Joint Implementation and Emissions Trading	\$10-50 million (considerably larger post 2012)	2008-2012

Evaluating Options for Generating Funds

Considerable discussion and debate has taken place within the climate community on how to evaluate international adaptation funding proposals. Which of the above existing and new proposals would be acceptable, and to whom? How do we balance the interests and expectations of donor and recipient countries? How do we generate funds at a scale commensurate to the challenge at hand? The following potential evaluation criteria are informed by the Bali Action Plan and international climate negotiation process more generally:

- Generate **Adequate** Funds: in the tens of billions of dollars
- Funding Generation is **Predictable**: steady flow of revenues, estimated in advance
- Funds Generated are **Additional**: over and above current ODA commitments

It is highly unlikely that a single mechanism will satisfactorily meet the above criteria. It will, therefore, be necessary to advance several of the most promising mechanisms to bridge the adaptation funding chasm in the near future.

Key Messages

- Mainstreaming adaptation into ODA is essential; however, ODA is unlikely to provide the ‘new and additional’ resources required to finance adaptation efforts of developing countries.

¹⁶ Müller, 6.

¹⁷ UNFCCC, *Investment and Financial Flows to Address Climate Change* (Bonn, 2007): 195.

- Auction revenues derived from proposed national and regional GHG markets represent a significant potential source of adaptation finance. Ongoing debates in the U.S. and EU offer a narrow but crucial political window to pass climate legislation which includes sizable funding for international adaptation. Earmarking of auction revenues is susceptible to competing domestic priorities, but less so than annual budget appropriations. Aviation and shipping levies are at present much more speculative, and likely to face greater political hurdles.
- Market-based levies in the ‘global space’, such as on Clean Development Mechanism transactions, are also promising and, importantly, avoid the domestic capture problem.

CHANNELING ADAPTATION FUNDING

Once funding for adaptation is generated, it has to be channeled to those who need it. This is a significant challenge, given the broad spectrum of activities that may be affected by climate change (e.g. agriculture, water resources management, infrastructure maintenance, disaster management, etc.), as well as the location-specific nature of climate change impacts and adaptation needs. To be effective in this context, mechanisms for channeling adaptation funding will need to reach a large number of different actors, and support a diverse set of activities tailored to specific places and communities.

Which institutions, old or new, should allocate adaptation resources? At the global level, institutional options for channeling adaptation funding fall into two categories: long-standing institutions that have traditionally funded economic development and new institutions created specifically to deal with climate change.

Multilateral and Bilateral Development Agencies

Channeling adaptation support through existing developing agencies (e.g. UNDP, World Bank) would avoid the cost of creating new institutions. It would also capitalize upon the expertise and experience that these institutions have in channeling funding for international development. Moreover, the current goals of these agencies are threatened by climate change. Integrating climate considerations into their ongoing work—often called ‘mainstreaming climate change’ into development—is clearly an important aspect of adaptation.

However, as noted above, the UNFCCC stipulates that support for adaptation must be ‘new and additional’ to funding needed for international development. Adaptation funding is perceived by developing countries as compensation owed by wealthy countries under the ‘polluter pays’ principle. Given this distinction, developing countries are arguing that they deserve greater control over the allocation of adaptation funding than they typically have had through bilateral development agencies or multilateral banks. This reasoning fed the Southern outcry against the launch of the World Bank’s Climate Investment Funds (CIF) in early 2008 (see box 2), in response to which the Bank was forced to significantly redesign

the funds' governance structure to provide greater voice and vote for developing countries over the use of adaptation funds.¹⁸

Box 2. The World Bank Climate Investment Funds

In early 2008, the World Bank proposed a portfolio of Climate Investment Funds (CIFs), including an Adaptation Fund and a Clean Technology Fund. The Adaptation Fund was to support developing countries to integrate adaptation into their national development planning. The UK, US and Japan all pledged funds in support of the CIFs in the context of commitments that emerged through the G8 dialogues on climate and energy.

Vocal criticism of the funds quickly emerged from Southern governments and global civil society. Many expressed concerns that creation of the CIFs at the Bank could undermine or predetermine the outcomes of post-2012 climate negotiations. In particular, the CIFs' Adaptation Fund was seen as a direct competitor to the Kyoto Protocol Adaptation Fund, for which a majority-Southern Fund Board had just been established in Bali after years of negotiations. Critics emphasized that adaptation funding is compensation due to poor countries who have contributed little to climate change, and as such, the Northern-controlled World Bank is an inappropriate location for significant adaptation finance. They also questioned whether poor countries could expect to negotiate in good faith with Northern partners who establish a globally agreed fund in December, then unilaterally create a competing fund the next month.

In response to the outcry, the UK government pushed the Bank to re-design the adaptation component of the CIFs. By March 2008 it had been re-framed as a learning exercise, rather than a "fund," and re-named the Pilot Program on Climate Resilience, with a sunset clause to take effect when post-2012 negotiations are concluded. Moreover, a new governance body was created for the pilot program, with equal representation of developing and developed countries, and explicit mechanisms for information-sharing with the Kyoto Protocol Adaptation Fund Board. To date, however, the only funds allocated to the Pilot Program (from the UK) take the form of concessional finance, and it is unclear whether even this is "new and additional" money.

Climate Change Institutions

The alternative to channeling adaptation funding through development agencies is to work through new or more recently established international institutions dedicated specifically to address climate change. As noted above, the UNFCCC created a set of international funds that support adaptation in developing countries. These are managed by the GEF; however, many developing countries have expressed frustration with the unclear guidance and high transaction costs attached to GEF climate funds. Moreover, as noted above, these funds have not attracted resources from donor countries on the scale needed to begin addressing the adaptation needs of developing countries (see table 2).

A different approach was taken in the creation of the Kyoto Protocol Adaptation Fund (AF). The AF was made operational in 2007 through decisions taken at the Bali climate negotiations that created a Southern-dominated AF Board responsible for the fund, with the GEF serving as its secretariat. The AF represents an interesting experiment in the creation of a new institution, in that it is a global body channeling funds generated globally, without resources under the direct control of a single country. But this experiment also creates the demand for new forms of accountability. Without dedicated domestic oversight

¹⁸ S. Nakhoda, *Correcting the World's Greatest Market Failure: Climate Change and the Multilateral Development Banks* (Washington: World Resources Institute, 2008): 3.

(e.g. congressional or parliamentary committees with appropriations authority), who will care if the AF resources are badly misspent? This question will need plausible answers within the next few years if the Adaptation Fund is to continue to be a credible candidate for channeling resources generated through new mechanisms under discussion for the post-2012 climate agreement.

Evaluating Options for Channeling Funds

Irrespective of whether adaptation resources are channeled through development or climate institutions, we argue that the following principles of institutional accountability should apply:

- **Transparency:** Institutions need clearly established funding criteria and mechanisms for channeling resources to recipient countries. All decisions should be made publicly available.
- **Appropriateness:** Adaptation funding is fundamentally compensation not aid. Loans are not an appropriate vehicle, concessionary or otherwise
- **Southern engagement:** Developing countries should be represented heavily within adaptation funding institutions and help shape allocation decisions. Climate-proofing of ODA should be aligned with Paris Declaration principles.
- **Capacity:** Roles and responsibilities of all parties involved should be made clear and agreed. The technical and human resources needed for effective management of funds must be made available to the funding body.
- **Professionalism:** Individuals entrusted with the management of these funds should be held to a high standard of professionalism and public accountability.
- **Monitoring and evaluation:** Systems should be in place for monitoring the impact of adaptation investments and revising funding practices in response.

Key Messages

- Given the involvement of many different institutions, and the fact that the post-2012 negotiations have only just begun, it seems likely that adaptation resources will be channeled through a highly fragmented landscape of funding mechanisms for the time being. This environment provides for a high degree of experimentation with a range of approaches, which is especially useful at this point in history, given the dearth of global experience with adaptation to climate change.
- The fragmentation of the adaptation financing landscape, however, poses significant coordination challenges for those responsible for generating adaptation funding, and,

perhaps more importantly, for those on the receiving end tasked with implementing activities funded through a variety of mechanisms.

- An additional challenge is that of institutional accountability. Few existing institutions available for channeling funds to developing countries are fully trusted by both donor and recipient countries. Accountability mechanisms should be designed into any new institutions to prevent a replication of this problem.

INTEGRATING ADAPTATION FUNDING INTO DEVELOPMENT PLANNING

How do we ensure adaptation funds are used most effectively? Given that efforts to adapt to the changing climate are connected to so many aspects of economic development, implementation of adaptation activities is likely to be more successful if adaptation is embedded within broader development efforts. National development plans, in particular, must take climate into account if resources generated through fragmented international mechanisms are to be used domestically in ways that enable coordinated action on adaptation.

Current efforts

The earliest formal national adaptation planning has been undertaken by low-income countries through procedures established within the UNFCCC for developing National Adaptation Plans of Action (NAPAs). Through their NAPAs, countries identify priority activities that respond to their most urgent and immediate adaptation needs. Thirty-three of forty-eight eligible countries have completed NAPAs to date, each identifying roughly ten priority projects. Identification in a NAPA is supposed to make projects preferentially eligible for funding via the UNFCCC adaptation funds (see table 2), but to date only eleven NAPA-identified projects have been submitted by countries to the GEF, and 10 have been funded.¹⁹

At about the same time that the UNFCCC Parties were negotiating the framework for developing NAPAs, the World Bank and International Monetary Fund (IMF) were developing and refining a new approach to their relations with low-income countries, centered around the development and implementation of poverty reduction strategies. Embodied in national Poverty Reduction Strategy Papers (PRSPs), these strategies were required as a precondition for access to debt relief and concessional financing. They also served as a framework for better coordination of development assistance among other development partners, such as the bilateral aid agencies. The PRSP approach sought to empower governments to set their development priorities and encouraged donors to align their assistance around a country's priorities, rather than their own.

In theory, NAPAs should have been embedded within the PRSP process, leading to more coherent planning and increased funding to key adaptation priorities. However, in practice, this has seldom occurred. Some of the difficulty stems from challenges in

¹⁹ These statistics were cited by staff of the UNFCCC Secretariat during the workshop on "Advancing Adaptation Through Finance and Technology, Including NAPAs," held in Bonn on 2-3 June, 2008, as part of the global climate negotiations.

developing PRSPs. Competing interests often lead to a ‘Christmas-tree’ approach to PRSPs—there is often something for everyone in a PRSP and real priorities are often obscured. In addition, PRSPs are prepared by ministries of finance or planning, often entirely disconnected from the environment ministries most closely associated with the NAPA process. Finally, the purpose of NAPAs is to secure resources from the fairly modest and somewhat peripheral UNFCCC adaptation funds. There has been little incentive (until now) to integrate adaptation into PRSPs or national development plans, or even to conduct truly comprehensive adaptation planning. Ironically, this has probably contributed to the fact that a portion of the limited funding available for NAPA implementation remains unspent.

Future challenges

As the need for integrating adaptation into development planning becomes clearer, national policymakers must learn the lessons of the NAPA experience. Adaptation planning needs to move beyond discrete projects. Increasingly, policymakers will need to grapple with how to mainstreaming adaptation across relevant line ministries and develop an enabling policy and institutional environment that fosters action by a broad range of players (local governments, the public, businesses) and helps successful initiatives to replicate. Key issues include:

- Identifying which **institutions and stakeholders** need to take action or make changes if adaptation is to take place.
- Finding models for integrating adaptation into development planning that build broad **ownership** and empower key actors, both within and outside of government, rather than diffusing action or marginalizing centers of expertise.
- Eliminating **barriers** to effective adaptation, including policies that may increase vulnerability and institutional arrangements that prevent effective bottom-up action
- Creating the **capacities** needed to spend adaptation funding effectively, including monitoring and accountability mechanisms
- Assuring that citizens sufficiently understand their countries’ adaptation challenges – and their governments’ responsibilities– to hold national governments **accountable** for their spending choices

Key Messages

- In the absence of such an enabling environment, there will be serious questions about the ability of developing countries to effectively use adaptation funding on the scale of the need identified. It is important to note that funding is a necessary, but not sufficient, ingredient in successfully addressing the adaptation challenge.

- At the moment, however, there is a lot of rhetoric about integrating adaptation into development, but there is very little understanding of exactly what this means. Concrete models and approaches are needed. Lessons from past ‘mainstreaming’ efforts need to be taken into account. For instance, some efforts to ‘mainstream’ environmental issues into finance or planning ministries have moved too quickly, failing because ministry staff do not understand or ‘own’ the issue, and do not take action on it. In other cases, mainstreaming efforts have morphed into small, ineffective measures taken on the margin of larger initiatives, rather than fundamentally changing decisions.
- The goal of integrating adaptation into development also should shape the design of mechanisms for generating and channeling funding. Given the need for building an enabling environment, for conducting comprehensive planning processes, and for providing support to a large and diverse set of actors/activities, programmatic funding and budget support may be more effective than project-based funding models. This is especially important given the likelihood of a highly fragmented adaptation funding environment, which could create significant gaps and redundancies if a project-based approach predominates. However, monitoring systems and accountability mechanisms tailored to a programmatic approach to adaptation will need to be developed if such an approach is to gain traction and build legitimacy.

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The urgency and scale of the climate crisis is raising the prominence of adaptation funding in climate negotiations. This paper aims to deepen our understanding of adaptation finance. We offer a framework unpacking adaptation finance into three stages: generating, channeling and implementing. In each stage, we explore different options and argue that there is window of opportunity to develop and test new, big ideas. These innovations will not only help developing countries adapt to climate change, which is absolutely crucial, but may also inform and shape the future of development assistance more broadly.