IGES Briefing Notes on the Post-2012 Climate Regime

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Financing and Governing Adaptation and Promoting Disaster Risk Reduction

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KEY MESSAGES

The future climate regime should:

- Make sure that the adaptation concerns are mainstreamed into developmental planning at various levels and that adaptation should not be treated separate from development.
- Establish a framework that mobilises new and innovative financial resources that goes beyond current proposals including private and public or that builds synergies among different sources of funds.
- Lead to funding mechanisms that meet criteria such as adequacy, predictability, additionality, and sustainability with vulnerable countries having larger stakes in its management and ownership.
- Establish a mechanism wherein countries are differentiated according to their vulnerabilities which could have favorable results in the future adaptation framework.
- Establish governance mechanism that enforces measuring, reporting and verification of adaptation actions.
- Build synergies between the United Nations Framework Convention on Climate Change (UNFCCC) and disaster risk reduction initiatives by effective sharing of knowledge and resources.

1. Introduction

Enhanced and effective actions to adapt to climate change are essential since climate change impacts will continue to be felt hundreds of years down the line. Adaptation is a complex process and hence requires equally robust initiatives, from global to local to effectively minimise climate change impacts.

The ongoing climate change negotiations have made a significant progress on adaptation (See Box on Adaptation Milestones). However, much needs to be done in order to give momentum to adaptation activities at all levels of vulnerabilities.

IGES consultations carried out in Asia over the past four years have identified several obstacles to effective adaptation, such as a lack of capacity to identify and implement effective adaptation actions, lack of understanding on issues related to adaptation, lack of finances, poor governance systems, and diverse opinions among developing countries on how adaptation concerns should be addressed in a future climate regime (IGES 2005, 2006, 2008). Over the years, the consensus has narrowed down to a few major issues, which include making available necessary finances for promoting adaptation, putting in place effective governance mechanisms, and promoting disaster risk reduction by establishing links between global level climate actions and local level risk reduction actions.

The aim of this Brief is to identify key issues related to adaptation financing, governance and linking global climate change negotiations and disaster risk reduction (DRR) and provide a way forward. Much of the information and analysis in this Brief came from our consultations, literature review, and brainstorm-

**This brief reflects the views of participants at the IGES consultations on the post - 2012 climate regime.*

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ing. The key messages for negotiators are presented in the box on the first page.

2. Adaptation financing

2.1 The issue

The available estimates suggest a wide range of adaptation costs depending on how the estimates are made (Table 1). Table 2 provides a brief view of potential finances available currently or in the pipeline. It is clear that there is a wide gap between the required and available finances. Hence, bridging the gap is an important issue being dealt within the ongoing negotiations under the UNFCCC. The Bali Action Plan (BAP) clearly stated that any finances for adaptation should meet principles such as adequacy, predictability, sustainability, new and additionality (as outlined in e (i) of BAP). Several proposals have already been put forward both under UNFCCC negotiations and outside UNFCCC negotiations, including the following points:

- Continuation of the Clean Development Mechanism (CDM) beyond 2012 could generate USD 100-500 m (low carbon credit demand) to USD 1-5 b (high carbon credit demand) in 2030
- Extending a 2% levy on JI and IET (USD 10-50 m by 2010, Oxfam)
- International air travel levy (USD 8-15 b)
- Auction of allowances for international maritime and aviation (USD 22-40 b/yr)
- Reducing Emissions from Deforestation and Degradation (REDD) up to USD 12 b per year by 2030 with an uncertain amount to contribute to adaptation (UNFCCC 2007)
- US climate change legislation: 20% of proceeds from the auction of Greenhouse Gas (GHG) emission permits for adaptation fund would provide USD 1 b during initial years and increase continuously until 2030.

Several challenges exist on these proposals, the most important being that none of them fully satisfy the principles set by BAP. In addition, with the ongoing global economic recession, the feasibility for these options to pay for adaptation is uncertain in the near future. Lack of effective governance mechanisms is another important challenge that hinders effective utilisation of available finances.

Adaptation Milestones

- 1995: Intergovernmental Panel on Climate Change (IPCC) 2nd Assessment Report mentions the need for adaptation
- 2001: National Adaptation Programmes of Action (NAPAs) (COP 7); established Least Developed Country Expert Group (LEG); decision on Adaptation Fund; Marrakech Accords; LDC Fund
- 2004: Buenos Aires program of work on adaptation and response measures
- 2005: SBSTA on 5 years program of work (COP 11)
- 2006: Nairobi Work Program on impacts, vulnerability and adaptation to climate change; adoption of Special Climate Change Fund (COP 12)
- 2007: IPCC Fourth Assessment Report linked adaptation and sustainable development; Bali Action Plan (COP 13); risk reduction and adaptation coupled; establishment of Adaptation Fund Board

Table 1: Indicative list of assessments for annual adaptation costs

Region	Sector/countries	Estimate (b USD)	Source
NAPAs	All LDCs	771 m	UNFCCC (2007)
Africa	Urban water infrastructure	2-5	Muller (2007)
Developing countries	Overall	4-37	Stern review (2006)
Global	Agriculture and fisheries	14	McCarl (2007)
Global	Overall	50	Oxfam (2007)
Global	Agriculture, water, health, CA & infrastructure	49-130	Smith (2007)
Global	Agriculture, forestry, fisheries, water, human health, coasts and infrastructure	44-166	UNFCCC (2007)

Table 2: A brief view of current and potential finances until 2012 for funding adaptation actions

Current Finances (m USD)		Potential finances* (USD)	
Least Developed Countries Fund	180	WB Climate Investment Funds	1.5 b
Special Climate Change Fund	90	DFID Environmental Transformation Fund	1.5 b
UNFCC-Kyoto Protocol Adaptation Fund	80-300	Japan Cool Earth Partnership	2.0 b
Canada assistance through ADB	5	ADB Climate Change Fund	10 m
		WB Pilot Program on Climate Resilience	500 m

** with uncertain amounts allocated to adaptation*

2.2 Perspectives

While there is an overwhelming consensus on the need for adaptation funding, there is lack of agreement on details of such funding such as sources of funds, how to manage the funds, including under the UNFCCC, and fund distribution among countries. There are diverse perspectives on adaptation financing among Parties to the Convention (Table 3). While developed countries such as the USA, New Zealand and EU emphasised market mechanisms for funding adaptation, developing countries fear that market mechanisms may unduly impact the poor. Developing countries instead argued for public funding and additional funds other than Official Development Assistance (ODA). G77 and China further contended that funds should be grants and not loans, not to regard funds provided outside the framework as a commitment by developed countries, and for management of adaptation funds within the UNFCCC. For better governance of finances, differentiation of different countries was proposed on the lines of aid effectiveness (New Zealand proposal). Mexico proposed to differentiate countries based on emissions, population, and Gross Domestic Product (GDP) for contributing to the proposed World Climate Change Funds.

In our consultations, the developing country participants argued that the historical responsibility should be considered an important principle for financing adaptation in developing countries. In addition to the historical responsibility, some participants also suggested that developed countries have additional incentives to support adaptation actions since a stronger global South means sustained supply of goods and services to the global North. This has reference to the fact that the countries are increasingly polarised in terms of producers and consumers of goods and services.

2.3 The way forward

Since the adaptation costs are huge, no single mechanism will be sufficient to raise finances for adaptation, rather multiple mechanisms will be needed to fund adaptation. A combination of market mechanisms and public financing would be most appropriate. At the international level, negotiations should focus on mechanisms that automatically generate finances, such as a levy on CDM, without depending on national level decisions.

Involvement of the private sector could also bring additional finances such as imposing levies on air travel and maritime emissions. With regard to the private sector involvement at the national level, we suggest that corporate social responsibility of multinational and big corporate bodies be promoted with possible adaptation targets, on the lines of carbon mitigation targets, along with incentives such as tax exemptions, allowance for higher Foreign Direct Investments (FDIs) etc. National governments should encourage multinational companies to pursue enhanced investment in adaptation in their country since such investments would largely secure the investments made in vulnerable countries.

Table 3: Some stakeholder perspectives and proposals on adaptation funding

Developed countries	Developing countries
• USA and EU emphasized the role of private sector • Japan emphasized the multi- and bi-lateral cooperation • Switzerland proposed the multi-lateral adaptation fund with prevention and insurance, National CC Fund, (Carbon tax based on per capita emissions. Adaptation as exclusive funding purpose) • New Zealand proposed for differentiation on the lines of aid effectiveness and called for greater private sector involvement • Norway proposed auction of assigned amount units • Australia emphasized the need to differentiate among SIDS (e.g. Singapore)	• G77/China emphasized for funds from Annex I public finance, additional to ODA and sees limited role of private sector (unfair burden on poor) • Mexico proposed the world climate change funds for adaptation and mitigation with participation of all parties • Cook Islands (AOSIS) proposed the climate adaptation funds • Philippines highlighted the importance of domestic financing for small scale local adaptation actions

Managing finances is another important aspect which cannot be separated from the discussion on sources of finances per se. In a future climate regime, the UNFCCC should create a body to manage the funds with equitable participation from all the countries. The Adaptation Fund Board created to manage Adaptation Fund under the Kyoto Protocol could set an example in this regard. Regarding the role of multi-lateral bodies, including the World Bank and Global Environmental Facility (GEF), these institutions still play an important role in helping the UNFCCC since they have needed expertise and experience. However, there is a need to improve the governance of these institutions. It should be seen that the decision making process be transparent on how funds are distributed to various parties. The future climate regime should make sure not to fragment the funds while there could be different sources, since multiple funds with multiple procurement guidelines could increase the number and site of bureaucratic hurdles.

Differentiation among developing countries could be a feasible proposition for effective fund allocation. The climatic vulnerability of developing countries should be used as a means of differentiation with the most vulnerable countries getting the highest funding in proportion to their vulnerability while ensuring that these countries' capacity is built to utilise the funds effectively. This requires that the climatic vulnerability of different countries be quantified and developed in the form of an index such that fund disbursement could effectively be made. This is different from Mexico's proposal since it is not necessary that countries with high emissions have less vulnerability (in fact it could be the opposite due to environmental degradation).

Further improvement of governance of adaptation funds can be accomplished through improvements on the following issues:

- Improving the efficiency of national financial mechanisms, better coordination among different ministries and avoiding replication of efforts could further enhance the finances at the national level.
- Shifting funding pattern of multi-lateral developmental banks from infrastructure (currently accounting to more than 50%) to social development programs, while increasing the private sector participation in infrastructure, could also enhance the adaptation.

3. Adaptation governance

3.1 The issue

Effective governance of adaptation is important even if sufficient finances are made available since there is a lack of capacity and experience to govern adaptation at a scale that is necessary. Adaptation governance encompasses how adaptation actions are identified, prioritised, funded and implemented along the 'continuum of adaptation' (see Figure 1). The continuum here starts from the UNFCCC to the 'Action Platform' where adaptation actions are implemented in various climate vulnerable countries. The stakes are very high in adaptation governance due to the large amount of funds to be invested.

There are several reasons for a greater emphasis on adaptation governance. At international level, a major concern is the lack of sufficient progress on development under various international initiatives. For instance, the Johannesburg Plan of Action and UN Millennium Development Goals are excellent initiatives in what they aim to achieve

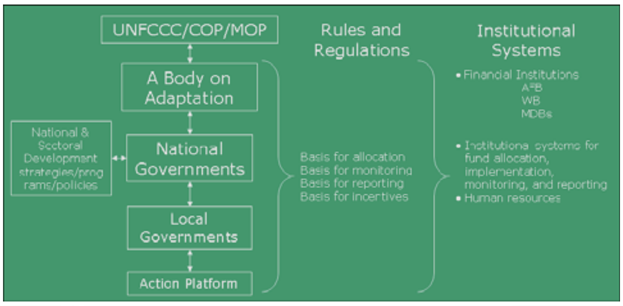

Figure 1: The adaptation governance continuum from international to local level

but fall short of aspects such as non-binding nature, no sufficient financial support and incentives for implementation, limited understanding on how to operationalise the concept of sustainable development, and it is overtly ambitious for some countries while inadequate for others which made these initiatives less than successful.

At the national level, governance related concerns are clearly highlighted by the inefficiency of ODA fund management. A survey of more than 50 developing countries which depend on ODA indicated several bottlenecks at the national level such as poor operational strategy to utilise ODA, poor country public finance management systems, and poor country procurement systems (3rd High Level Forum on Aid Effectiveness 2008). Since adaptation actions and funds would have to be implemented through the same national level institutions and governance systems, it is essential that these systems be rectified with priority by keeping provision to mainstream the adaptation actions into developmental programs, plans and projects along with implementing effective monitoring and transparent governance procedures. Bureaucratic hurdles such as delayed decision making at the national level would also have to be removed. In addition, there is a need for the future climate regime to design adaptation framework that builds upon the existing national development governance systems.

Better adaptation governance at the national level also requires that the capacities of countries be enhanced to identify, prioritise, and implement a wide variety of adaptation actions, policies and programmes. The Nairobi Work Program (NWP) has identified some priority areas for countries to improve their understanding and assessment of climate change impacts, vulnerability, and adaptation so as to make informed decision on practical adaptation actions and measures in response to and in anticipation of climate change. However, the implementation of NWP is not free from challenges. Issues such as limited finances and limited capacity to implement the ambitious programme need to be addressed (Okereke et al. 2007).

3.2 Perspectives

At the international level, there were suggestions to establish an expert committee (e.g. proposals by China and Cook Islands) to guide the Conference of the Parties (COP) on decisions related to adaptation with some opposition from Japan, EU, and Australia, which expressed possible limitation of such a group to have expertise on a wide variety of subjects and instead suggested ad-hoc expert groups.

Since the lack of capacity has been an important obstacle to effective adaptation governance, developing countries proposed adaptation centers at various levels. Bangladesh, Cook Islands, and China have proposed centers of excellence at various levels and suggested that National Adaptation Action Plans (NAPAs) be prepared by all vulnerable nations (Harmeling 2008).

3.3 The way forward

The adaptation framework in the future climate regime is yet to shape up clearly and it largely depends on how the negotiations proceed in the near future. If the ongoing negotiations are any indication, the adaptation framework in the future climate regime will look similar to the diagram in Figure 2. There would be a body under the UNFCCC overlooking adaptation actions at the international level. Though the nature of this body is not yet clearly discussed, by looking at various proposals made by different parties, this body would manage adaptation funds, play a significant role in monitoring adaptation actions, decide financial allocations, develop guidelines for accessing funds, and oversee reporting procedures.

There is a high probability there will be a fund dedicated to adaptation actions (named either the Adaptation Fund or World Climate Change Fund etc.) to be managed by a body. There should be linkages developed with several international processes outside the UNFCCC including the DRR (discussed in the next section). Similar linkages may also emerge with the risk insurance industry, health, MDGs etc. where much of the work has already been carried out outside the UNFCCC.

Adaptation governance could be considerably improved

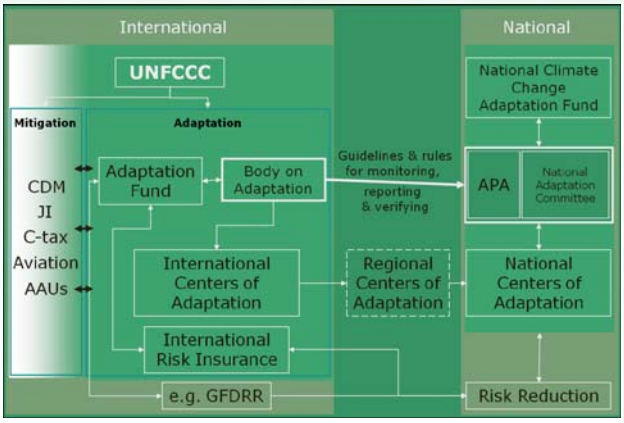

Figure 2: Adaptation framework: Schematic diagram showing the possible adaptation framework* under UNFCCC in future

**based on the ongoing discussions and our expectations of how things may shape up and hence could be subjected to change*

if adaptation actions are measured, reported and verified (MRV). Currently, the BAP interprets MRV only for mitigation actions. However, there is a need for the MRV to be applied to adaptation actions too in order to enhance the accountability and effectiveness of adaptation actions. MRV requires that the climate risks are quantified, an index be developed to rate the effectiveness of adaptation actions, quantify the incremental progress in adaptive capacity of societies, institutions, natural ecosystems etc. and be compared against a base line year or average of years or a risk reduction target set in the future.

However, there is a long way to go for implementing the MRVs for adaptation actions since measuring adaptation is largely a neglected area of work. Challenges include identifying a set of metrics that are applicable to a wide range of geographical and time scales and conditions. Operationalising MRVs require establishing new institutional capacities at the national and international levels that enable efficient monitoring of adaptation actions taken on the ground. There has been considerable amount of work done on quantifying risks and vulnerabilities in the area of DRR and these experiences could be used. The adaptation actions and their effectiveness should ideally be reported to the COP on a regular basis.

At the national level, adaptation governance could be facilitated through establishing a national focal body for adaptation (could be called as National Coordinating Committee or National Adaptation Body) that works in close technical cooperation with a national level adaptation institute, either newly established or through the designation of existing ones, for implementing national level adaptation actions. The national level body would ideally identify, prioritise and help in implementation of only those programmes and projects that meet the guidelines set by UNFCCC or are agreed upon at the national level, and monitor these programmes by using appropriate metrics. UNEP has recently initiated a process of establishing a Global Climate Change Adaptation Network, a network of institutions, which provides required services for effective adaptation. Such a network is expected to effectively enhance the capacity of several regional and national level institutions in designing and implementing adaptation actions. A national level Adaptation Programme of Action would ideally drive the national level adaptation actions designed by taking into consideration the national circumstances such as vulnerabilities and capacities. Ideally, this action programme should be developed by all vulnerable countries and should be reported to the UNFCCC. Some countries, depending on their national circumstances, may put additional efforts in generating national level finances pooled as National Climate Change Funds in general or National Climate Change Adaptation Funds. These funds could be generated through voluntary national level initiatives or linked to the global adaptation funds being discussed under the UNFCCC.

4. Strengthening disaster risk reduction

4.1 The issue

The Bali Action Plan, for the first time, brought together the two worlds of climate change and disaster risk reduction (DRR) under the same umbrella. This is an important step since climate change has significant implications in terms of severe and frequent natural disasters that can undermine the years of development. Though the BAP does not provide clear details on how these two could be linked, it did provide a broad framework through which negotiations could figure out supporting DRR activities under the UNFCCC.

Over the years, a lot of expertise and experience related to DRR have been accumulated outside the UNFCCC. The International Federation of Red Cross and Red Crescent Societies (IFRC), Red Cross (RC), Provention Consortium, Asian Disaster Preparedness Center (ADPC), and various regional and national institutions have done a considerable amount of work on DRR by collaborating with stakeholders at different levels of governments in different countries. The Hyogo Framework of Action (HFA), being implemented by the international partnership called the Global Facility for Disaster Reduction and Recovery (GFDRR) formed under the International Strategy for Disaster Reduction (ISDR), aims at integrating DRR into the national developmental policies, planning and financing. However, these institutions and initiatives have largely been working in isolation from the climate change community and hence there is potential to link them with processes under the UNFCCC and avoid duplication.

Disaster risks could be reduced by spreading the risks through disaster risk insurance. The disaster risk insurance cost assessments are not widely available in developing countries. However, risk insurance in many developing countries could be exorbitantly high due to the absence of risk mitigation measures such as structural standards and integrating DRR concerns in land use planning regulations. Hence, there is a possibility for huge losses and insurance payments in the eventuality of a catastrophic climatic event putting the insurance agencies at financial risk. There is a need for a strong support from re-insurance agencies backed by a pool of financial resources raised globally. The adaptation fund established under the UNFCCC could potentially support a global or regional disaster risk insurance system. Such a support would also help establish a functional link between the UNFCCC and DRR which would further help in effective adaptation to climate change.

4.2 Perspectives

There have already been some proposals made by parties to the UNFCCC and some from outside the UNFCCC. The Alliance of Small Island States (AOSIS) has proposed an International Insurance mechanism and Solidarity Funds to address catastrophic risk and collective loss sharing. Cook Islands proposed the International Insurance Scheme where it emphasised collective burden sharing, subsidy elements to maintain funds as a compensation for unavoidable impacts, and funding risk reduction initiatives (Harmeling 2008). Switzeland's proposal included prevention and insurance pillars with funds coming from a global CO_2 levy with greater benefit to low income countries.

Munich Re Climate Change Initiative made a proposal that consists of two tracks or pillars, one for supporting risk reduction through activities and the other supporting insurance (Bals et al. 2008). The insurance component was divided into two tiers with tier I consisting of a climate insurance pool to cover the high level risks in non-Annex I countries and tier II consisting of public safety nets and insurance systems through public-private partnerships covering medium level risks. These two proposals differ in the way that the later proposal identified the need for a combination of risk spreading and mitigation.

Tear Fund, UK (2008) has made several recommendations for mainstreaming climate change in DRR and addressing DRR concerns in the post-2012 regime. In its communication, it recognised similarities and dissimilarities between climate change initiatives and DRR initiatives and called for more coordinated action by both communities. The Tear Fund also suggested using the Hyogo Framework of Action as a central point for future negotiations, called for strong focus on DRR, greater collaboration among experts, and informing adaptation by successful examples from community based risk reduction initiatives.

4.3 The way forward

To bridge the gap in the expertise under the UNFCCC, processes under the UNFCCC could be effectively linked with the initiatives being taken up outside the UNFCCC. Discussions for linking UNFCCC and UN Convention to Combat Desertification (UNCCD) provide a good example of potential synergies (Horstmann 2006).

We propose a 'Climate Risk Reduction Pact' between the UNFCCC and outside initiatives. Firstly, GFDRR-led initiatives could be supported by the funds raised under the UNFCCC (any funds meant for funding adaptation activities under the UNFCCC) (Figure 3, linkages are shown as orange dotted lines). GFDRR could facilitate transferring required expertise and funds to disaster vulnerable countries supporting the implementation of HFA. Several countries have already started implementing the HFA. However, in the future, there is a need to incorporate climate change concerns in the HFA so as to make it climate proof. Secondly, a technical advisory committee supporting the body on adaptation under the UNFCCC could be another means of mutual support. This committee could draw expertise from various DRR initiatives outside the UNFCCC process. For example, the membership could represent GFDRR, ISDR, IFRC, ADPC, and other international, regional and national players. DRR experts could help the UNFCCC to establish a system for measuring progress in adaptation that helps in MRVing the adaptation actions.

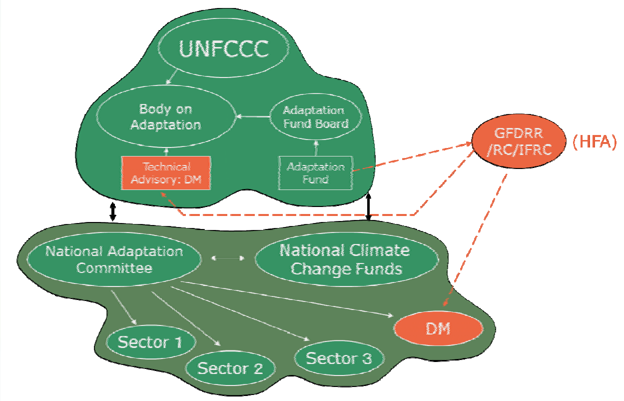

Figure 3: Climate Risk Reduction Pact: Linkaging UNFCCC and the disaster risk reduction initiatives outside UNFCCC.*

** All mechanisms shown here are subject to future developments and hence are indicative and partial only*

The other way of linking processes under the UNFCCC and outside processes is through providing financial support to global or regional climate risk insurance where we have seen some proposals made by Parties such as the Cook Islands. However, raising finances, either domestically or internationally, is a challenge since many other actions are competing for the limited available finances. In order to be effective, the climate regime should promote proposals with a combination of risk mitigation and risk transfer mechanisms. Specific emphasis should be on promoting public-private partnerships. A part of finances for DRR could come from income generated by 'securitisation' (the process by which insurance firms diversify their risks by investing in open market processes) (Brumbaugh and King 2005).

Instead of a single global level risk transfer mechanism, the discussions in our consultations focused promoting risk transfer instruments that are based on country specific circumstances such as vulnerabilities, past experiences, and capacities. The future climate regime should also ensure drawing lessons from and scaling up existing innovative and regional insurance schemes (e.g. Caribbean Catastrophe Risk Insurance Facility). Promotion of micro-finance and micro-savings could be seen as a possible means of reducing the vulnerabilities in place of risk insurance.

References

3rd High Level Forum on Aid Effectiveness. 2008. 2008 Survey on monitoring the Paris declaration effective aid by 2010? What it will take? Vol. 1, Overview, 3rd High Level Forum on Aid Effectiveness. 2-4 September 2008, Accra, Ghana.

Bals, C., I. Burton, S. Butzengeiger, A. Dlugolecki, E. Gurenko, et al. 2008. Insurance-related options for adaptation to climate change. Presented at Expert Workshop on Risk Management and Insurance Solutions to Face Climate Change: A Way Forward. 30 October 2008, Bonn, Germany.

Brumbaugh, D.L. and R.O. King. 2005. Tax deductions for catastrophic risk insurance reserves: Explanation and economic analysis. *CRS Report for Congress*. US Library of Congress. (http://www.fas.org/sgp/crs/misc/RL33060.pdf)

Harmeling, S. 2008. *Adaptation under the UNFCCC – the road from Bonn to Poznan, 2008*. Briefing Paper. Bonn: Germanwatch.

Horstmann, B. 2006. Synergies between UNFCCC and UNCCD in Africa: Experiences made in implementing the UNCCD. Synergy Meeting, UNFCCC. September 2006, Bonn, Germany.

IGES (Institute for Global Environmental Strategies). 2005. *Asian perspectives on climate regime beyond 2012: concerns, interests and priorities: concerns, interests and priorities*. Hayama, Japan: IGES.

IGES (Institute for Global Environmental Strategies). 2006. *Asian aspirations for climate regime beyond 2012*. Hayama, Japan: IGES.

IGES (Institute for Global Environmental Strategies). 2008. *The climate regime beyond 2012: reconciling Asian developmental priorities and global climate interests*. Hayama, Japan: IGES.

McCarl, B. 2007. *Adaptation options for agriculture, forestry and fisheries, a concept to the UNFCCC Secretariat Financial and Technical Support Division*. Bonn: UNFCCC.

Muller, M. 2007. Adapting to climate change: Water management for urban resilience. *Environment and Urbanization* 19, no. 1: 99-112.

Okereke, C., P. Mann, H. Osbahr, B. Muller, and J. Ebeling. 2007. Assessment of key negotiating issues at Nairobi climate COP/MOP and what it means for the future of the climate regime. Working Paper 106. Tyndall Center for Climate Change Research, UK.

Oxfam. 2007. Oxfam applauds adaptation funding in US legislation, urges concrete action in Bali. Oxfam Press Release.

Smith, J.B. 2007. Preliminary estimates of additional investment and financial flows needed for adaptation in 2030, paper presented at the Dialogue on Long-Term Cooperative Action, 28 August 2007, Vienna.

Stern, N. 2006. *The economics of climate change: The Stern Review*. Cambridge: Cambridge University Press.

Tear Fund. 2008. Disaster risk reduction and the post 2012 framework. Bonn climate change talks. 2-13 June 2008, Bonn, Germany.

UNFCCC (United Nations Framework Convention on Climate Change). 2007. An assessment of the funding necessary to assist developing countries in meeting their commitments relating to the Global Environment Facility replenishment cycle. Subsidiary Body on Implementation, UNFCCC. November 2007, Bonn, Germany.

UNFCCC (United Nations Framework Convention on Climate Change). 2007. Investment and financial flows to address climate change. Background paper on analysis of existing and planned investment and financial flows relevant to the development of effective and appropriate international response to climate change. p. 273.

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