BRIEFING PAPER

Adaptation to climate change – where do we go from Bali?

An Analysis of the COP13 and the key issues on the road to a new climate change treaty

Sven Harmeling and Christoph Bals

GERMANWATCH

Brief Summary

Adaptation to climate change featured very prominently during the Bali UN climate conference in December 2007. Given the accelerating threats of climate change in particular for developing countries, immediately increased adaptation efforts are needed. Now, after agreeing the Bali Roadmap with the objective to finalise a new international climate change agreement by 2009, it is time to assess the state of knowledge on key questions which arise from the Bali Roadmap. These include aspects like a streamlined definition of adaptation, the scale of, the responsibility for and the instruments to generate increased funding, but also questions of decision-making structures. The upcoming negotiations will have to address these questions, in addition to those related to mitigation efforts in order to avoid dangerous climate change.

This briefing paper analyses the decisions taken in Bali and discusses relevant questions with regard to adaptation for the upcoming negotations, starting with the Bangkok Climate Change Talks held in early April 2008.

Imprint

Authors:
Sven Harmeling and Christoph Bals

Editing and translation:
Thomas Spencer

Publisher:
Germanwatch e.V.

Office Bonn
Dr. Werner-Schuster-Haus
Kaiserstr. 201
D-53113 Bonn
Phone +49 (0) 228 60492-0, Fax -19

Office Berlin
Voßstr. 1
D-10117 Berlin
Phone +49 (0) 30 2888 356-0, Fax -1

Internet: http://www.germanwatch.org
E-mail: info@germanwatch.org

March 2008
Purchase order number: 08-2-14e

This publication can be downloaded at:
http://www.germanwatch.org/klima/adapt08e.htm

For correspondence with the authors: harmeling@germanwatch.org

Contents

List of tables

List of figures

List of boxes

Executive Summary

Adaptation to climate change featured very high on the agenda of the UN climate change conference held in Bali in December 2007. In the Parties' rhetorics, it has reached an equal footing with mitigation. However, both adaptation and mitigation are inextricably linked to each other, and if global greenhouse gas emissions will not be reduced drastically with the objective to limit global warming to below 2°C above pre-industrial levels, many countries' adaptive capacities will be strained. The probability of triggering large-scale risks in the climate system, the so-called tipping processes, increases beyond this temperature threshold.

The Bali conference ended with the adoption of the so-called Bali Roadmap which outlines the negotiation framework towards the adoption of a new global post-2012 climate treaty hopefully by no later than the year 2009. The negotiation structure has developed into four so-called building blocks: mitigation, adaptation, technologies and finance. This paper analyses the implications of the agreement made in Bali with regard to the adaptation challenge in developing countries and the key questions that arise for the negotiations.

Building Block Adaptation

The Bali Roadmap entails a very broad definition which has to be further contextualized to operationalise it. A focus of future adaptation actions needs to be on those developing countries particularly vulnerable, which are the Least Developed Countries, Small Island Developing States and countries in Africa prone to weather-related disasters such as droughts and floodings. However, there are also other countries which view themselves as very vulnerable, and being vulnerable will very likely lead to increased opportunities to receive adaptation funding. Further concretisation of the implications of vulnerability, such as the level of preferential treatment in receiving financing, is needed. Also, the role of the Convention in relation to its scope and its limitations to foster adaptation effectively has to be clarified.

Building Block Finance

Numerous estimates on the costs of adaptation to climate change in developing countries undertaken by well-known organisations have shown that the scale of costs is much higher than the adaptation financing provided so far through means such as funds under the UNFCCC, the Kyoto Protocol or Official Development Assistance (ODA). While the costs may amount to USD 50 billion annual extra costs within the next two decades, current financing is in the order of less than one billion USD. Present funding is neither sufficiently predictable, since it primarily relies on voluntary contributions by Annex-I countries. Filling up this "adaptation financing gorge" will be crucial if an equitable climate change agreement is to be reached that addresses the situation of those affected by the adverse consequences of climate change. A number of financing instruments are being discussed, such as the auctioning of emission allowances in existing Emission Trading Schemes or in sectors presently not covered by the Kyoto Protocol (international

aviation and maritime transport), levies in these sectors, and the extension of the Adaptation Fund levy of the Clean Development Mechanism (CDM) to other flexible mechanisms under the Kyoto Protocol. In sum, these instruments would have the potential to generate financing in the order of tenth of billions of dollars and thus could meet the estimated costs of adaptation in developing countries. However, at this stage of the negotiations it is not foreseeable if any of these and which instruments will be implemented eventually.

There is no doubt that, based on the principle of common but differentiated responsibilities, the developed countries will have to bear a large share of the investments needed to adapt in developing countries. How the share will be distributed to countries according to their capabilities and historic responsibilities for anthropogenic climate change remains a point of debate in different burding sharing concepts. Also, some developing countries will be expected to contribute to international adaptation financing, since an increasing share of the population is becoming part of the global consumer class. However, even if the necessary means will be generated, there is still the question of decision-making structures and priorities for spending the money. The Adaptation Fund decision-making structure, agreed on in Bali, gives much weight to the developing world and has to be judged as one of the most democratic international decision-making structures. However, there is uncertainty if the AF will be the primary channel to finance adaptation in developing countries, or if for example the developed countries choose to bypass this new structure and instead of favor donor-dominated structures, such as the World Bank. Finally, the question also needs to be raised if and how those people most affected by climate change will be given high priority in a regime which is negotiated among governments which often marginalise the poor. Increasing their adaptive, but also absorptive capacity remains an important challenge.

Building Block Technologies

The dissemination of technologies relevant for adaptation is hampered by barriers related to resource constraints and scientific and technical aspects. Improving the identification of technology needs and their effectiveness as well as tools and methods to assess the quality of technological cooperation are important issues to support technology implementation for adaptation, which will be on the post-Bali agenda.

In addition to the Bali Roadmap, some more relevant decisions were being taken in Bali, like the extension of the mandate of the Least Developed Countries Expert Group (LEG), a new five-year mandate for the Expert Group on Technology Transfer (EGTT) and, last but not least, the operationalisation of the Adaptation Fund under the Kyoto Protocol.

Next steps after Bali

The Bali Roadmap is only a framework for the negotiations of the next 18 months, and thus most of the questions raised have not been answered by the Bali outcomes. A first step for the concretisation of the answers to these questions will be the Bangkok Climate Change Talks held in early April 2008, which has the objective to agree on a work programme among Parties how, when and in which sequence the numerous issues are being negotiated, and supported by submissions and in-session workshops.

1 Introduction

Adaptation to climate change featured very prominently on the agenda of the UN climate change conference held in Bali in December 2007, highlighting in particular the needs of the countries most vulnerable to the adverse impacts of climate change. In terms of the rhetoric of the Parties, it has reached an equal footing with mitigation..Both mitigation and adaptation are inextricably linked with each other. The level of mitigation determines the level of temperature increase, and this determines the magnitude of climatic changes that mankind has to adapt to. The interconnectedness also becomes clear when countries highly at risk from climate change – such as Mauritius, a Small Island Developing State (SIDS) – not only demand adaptation support, but short-term and faster mitigation efforts to limit global warming in particular to avoid the passing of so-called tipping points:

"We recommend greater focus on the threat of abrupt climate change, including from ice melt, where the "tipping point" for the resulting catastrophic sea-level rise may be as close as ten years; on immediate climate mitigation strategies that can produce near-term mitigation to avoid this and other tipping points for abrupt changes, in order to get a fast start that complements mid- and long-term strategies"[1]

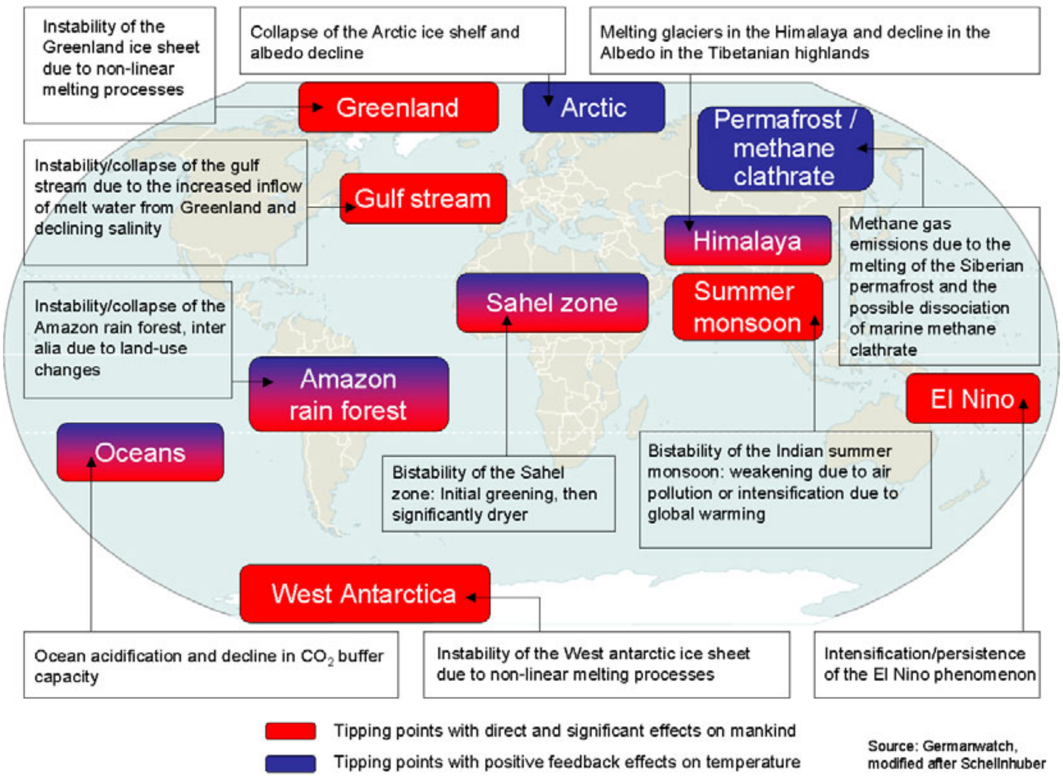

Figure 1: Tipping elements in the climate system

Source: Germanwatch illustration modified after Schellnhuber/Jaeger 2006

Some of the tipping elements being discussed would directly affect areas with a high population density – such as the Indian Monsoon change or glacial melting in the Tibetan Plateaus and the Himalayas – while others would have severe consequences on a global level, including positive feedback effects which further trigger global warming – such as the Dieback of the Amazon Rainforest, accelerated sea-level rise due to the instability of the West-Antarctic and the Greenland Ice Sheet or methane release due to permafrost

[1] UNFCCC 2008a: 37; see also Lenton et al. 2008

loss. The tipping processes are a key reason why many scientists, non-governmental development and environment organisations and policymakers – such as the EU – are calling for the limitation of global warming at less than 2°C above pre-industrial levels. Failing to take the necessary mitigation steps needed to achieve this limit will lead to many countries' adaptive capacities being strained. As a logical consequence, the Maldives' submission on behalf of the Least Developed Countries clearly calls for global emission reduction targets at least in the range of the lowest stabilisation scenarios, with global greenhouse gas emissions being reduced by 50 to 85% in 2050 compared to 1990, with a corresponding peaking year in 2000 to 2015.[2]

Against this background, this briefing paper analyses in more detail how adaptation-related issues were reflected in the outcomes of the UN climate conference held in Bali in 2007, and what Germanwatch sees as the key questions of the adaptation policy debate on the way to a new climate change treaty. Giving more substance to our understanding of these questions will probably be decisive, if a new agreement is to effectively support adaptation to climate change in the most vulnerable regions and communities in particular.

The exclusive focus on adaptation here is not to suggest that adaptation is more important than mitigation. The purpose is to explain the road ahead on this issue, which is of particular relevance for many developing countries. For a more comprehensive analysis of the Bali outcomes see the Germanwatch paper *"Bali, Poznan, Copenhagen – triple jump towards a new quality of climate policy?"*.[3]

The major outcome of the UN climate conference in Bali was the adoption of the "Bali Roadmap". Consisting of three policy documents, this Roadmap outlines the further negotiations with a view to finalising a new international agreement by no later than 2009. The three key documents are:

- the conclusions of the "Dialogue on Long-term Cooperative Action under the Convention" (the so-called "Bali Action Plan"), including the establishment of an Ad-Hoc Working Group on Long-term Cooperative Action (AWG-LCA);
- the decision on the "Scope and content of the second review of the Kyoto Protocol pursuant to its Article 9";
- and the Conclusions adopted by the "Ad Hoc Working Group on Further Commitments for Annex I Parties under the Kyoto Protocol".

By the end of February 2008, Parties and Observers will submit their views on the work programme of the AWG-LCA which is to be negotiated in Bangkok in early April 2008. A compilation of the submissions can be found at the UNFCCC website.[4]

The structure for the negotiations on a post-2012 policy framework which emerged in Bali, as agreed upon in the Bali Action Plan, consists of four building blocks: mitigation, adaptation, technology and financing (fig. 2).

It has to be noted that the Bali Action Plan not only addresses questions that are relevant for the time beyond 2012, but also actions relevant "now, up to, and beyond 2012".[5] The need for – in this sense – "early action" was an important part of the discussions in Bali and was also called a fifth building block on a more informal level, with the indispensable objective of building trust. This primarily addresses expectations placed upon industrialised countries: if they fulfil their past commitments and initiate measures immediately, even before a new agreement is reached, they would thus show their seriousness in living

[2] UNFCCC 2008a: 32
[3] Bals 2008
[4] see UNFCCCa 2008
[5] Decision 1/CP.13

up to their responsibilities and prior commitments. The need for early action has also been reaffirmed by different Parties in their submissions on the AWG-LCA work programme, in particular with regard to adaptation. For example, Argentina expressed the need to *"develop and implement short-term solutions, while addressing the need for and strengthening mid- and long-term approaches to climate change."*[6] Bangladesh called for the *"Evolution of fast track procedures for easy access to funding"* and stressed that the, *"urgent and immediate adaptation needs of developing countries that are particularly vulnerable to the adverse effects of climate change […] should be dealt along with other ongoing agenda items under UNFCC and KP."*[7] Mauritius also emphasised the same point: *"Adaptation needs immediate and expanded funding. While some initial progress was made in Bali on the issue of adaptation, there is an urgent need for immediate and expanded funding for low-lying island and coastal developing countries, along with associated technology and technical assistance."*[8]

The Bali decisions outside of the Bali Roadmap (chapter 5) are being analysed against the background of the fifth building block.

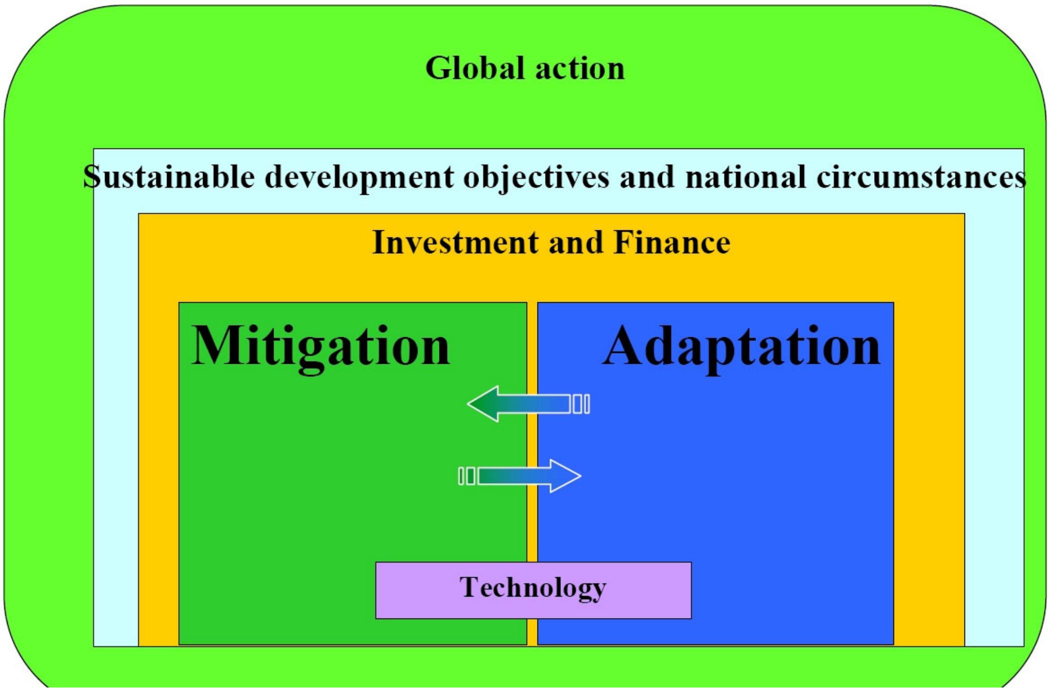

Figure 2: The negotiation building blocks

Source: UNFCCC

From Germanwatch's viewpoint the following five aspects represent minimum requirements in the area of adaptation that a fair and appropriate agreement needs to meet:

1. Sufficient and solid funding of adaptation measures and the coverage of damages caused by climate change in the most vulnerable countries, particularly LDCs and small island states. This can be achieved with the help of new and innovative financial instruments.

[6] UNFCCC 2008a: 4
[7] UNFCCC 2008a: 13
[8] UNFCCC 2008a: 39

2. Giving priority to the needs of the most vulnerable groups of the population, based on a human rights based approach[9]*, and to locally developed adaptation approaches against the negative effects of anthropogenic climate change.*

3. Scientific and technological support for the expansion of capacities to design and implement adaptation strategies.

4. Ensuring that support mechanisms create further incentives (such as insurance based mechanisms) in order to maximise the effectiveness of adaptation strategies;

5. Assessing the political and practical potential of instruments that link mitigation and adaptation purposes.

Are the Bali decisions a step forward on the way to an agreement that meets these requirements? Answers to these question will be addressed in the summarising Chapter 6.1.

2 Adaptation in the Bali Roadmap

How does adaptation appear in the Bali Roadmap? The most important reference is the final document of the Dialogue, the "Bali Action Plan". While adaptation is addressed separately as one of the four building blocks, the blocks on technology and financing are closely related to the language that has been agreed on in terms of adaptation, since technology transfer and implementation and increased financing will be crucial to achieve sufficient development and effective implementation of adaptation projects, programmes and activities in developing countries.

Adaptation in the "Bali Action Plan":

1c) "Enhanced action on adaptation, including, inter alia, consideration of:

(i) International cooperation to support urgent implementation of adaptation actions, including through vulnerability assessments, prioritisation of actions, financial need 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.

(ii) Risk management and risk reduction strategies, including risk sharing and transfer mechanisms such as insurance;

(iii) 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;

(iv) Economic diversification to build resilience;

(v) 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.

[9] see also Oxfam International 2008

2.1 How will adaptation be defined in a post-2012 agreement?

The Bali Action Plan reflects a very broad understanding of adaptation, by listing numerous measures and fields of action that will be considered in the upcoming negotiations (paragraph 1c)i – 1c)iv). On the one hand this is in line with the scientific understanding of the close and complex interrelationships between vulnerability, poverty reduction and adaptation, since there are numerous dimensions and actions which could contribute to increasing the adaptive capacity of people and countries. On the other hand, this complicates the challenge of streamlining support for effective adaptation strategies.

That is one reason why **Bangladesh** in its submission on the AWG-LCA work programme expresses the need to operationally interpret and contextualize these broad principles and activities as one of the first actions, before discussing the *"support mechanisms to enable the parties for the implementation of their assessed adaptation strategies, programmes and projects."*[10] **The Maldives**, on behalf of the Least Developed Countries (LDCs), also call for a discussion on the interpretation of the listed activities and proposes the *"establishment of a knowledge based adaptation research centre to serve the needs of vulnerable countries."*[11]

Bangladesh suggests the differentiation between technological, policy based and behavioural activities. **Indonesia** highlights the *"urgent adaptation needs which could include risk management and reduction strategies"* in order to promote climate change resilient development. The country also sees the need for a focus on nationally identified key sectors, *"for instance marine and coastal infrastructure, agriculture, water resources and human health"*. Also important is the demand uttered by **Bangladesh** for a better assessment and prediction of likely medium-term impacts of climate change (10-15 years and beyond). The National Adaptation Programmes of Action (NAPAs) provide at least initial assessments of adaptation priorities in LDCs, but are in no way sufficient to prepare for climate change.

For example, **Mauritius** has suggested that the IPCC Assessment Reports should be supplemented with annual updates, which would thus address the pressing need for a better understanding of climate change scenarios in the short to medium term, and which would thus better focus and facilitate world wide climate change adaptation strategies. This idea is based on the work under the Montreal Protocol where annual assessment processes provide Parties with a more up-to-date knowledge: *"A similar fast-moving process for climate change should be started immediately, and should address abrupt climate change as a priority within the next three months."*[12]

2.2 Which countries are viewed as "particularly vulnerable"?

It is remarkable that the final text of the Bali Action Plan specifies which countries are seen to be particularly vulnerable – namely the least developed countries (LDCs) and the small island developing States (SIDS). The separate mentioning of African countries *"affected by drought, desertification and floods"* further concretises which countries need to be the focus of support strategies. Although this is not a new definition of which countries are seen to be particularly vulnerable, previous draft versions of the document did not contain such specifications. The LDCs, the SIDS and African countries thus were

[10] UNFCCC 2008a: 12
[11] UNFCCC 2008a: 33
[12] UNFCCC 2008a: 38

successful in highlighting their particular vulnerability. However, clear and agreed indicators on their particular vulnerabilities as well as on how adaptation financing should be made available to these countries, compared to other developing countries, are not at the table so far. **Egypt** calls for *"the submission of a list of the most vulnerable countries affected by climate change."* On behalf of the LDCs, **the Maldives** propose the *"development of vulnerability index criteria to assess the adaptation needs of LDCs, SIDS and African drought and flood prone countries for preferential treatment in accessing the funds in the future climate regime."*[13]

This might also become a point of debate, given for example the fact that in absolute economic terms the adaptation costs may be much lower in Africa than in Asia, since general investments in the latter are much higher. This is one conclusion of the adaptation cost analysis done by the UNFCCC.[14] Estimated for 2030, the additional investment needed to adapt infrastructure to climate change risks in 2030 in Africa is only 1% of the investment needed in developing Asia. Of course the costs should be seen in comparison with e.g. the regions´ GDPs. And this example only relates to a certain fraction of adaptation costs.

The analysis of the submissions made on the AWG-LCA agenda shows that there are also other countries which identify themselves as very vulnerable, although they do not belong to the countries emphasised.

For example, **Colombia** underlines its vulnerability *"due to our extensive coastal areas, the amount of population living along these coasts and the fragility of our ecosystems, including high mountain ranges and tropical rain forests. Coastal and insular areas in Colombia are already experiencing impacts caused by global warming."* [15]

Egypt suggests to focus *"on countries with deltas threatened by inundation of sea water, oceans in view of urgency of this matter and its serious impact on the population and development course of those countries."*[16]

Uruguay states that *"adaptation actions should address all Parties, especially developing countries which sustainable development depend on a great extent on their natural resources such as coastal resources, agriculture and water resources, and at the same time are extremely vulnerable to the adverse effects of climate change."*[17]

Tied up to the definition of particularly vulnerable countries of the BAP, **Bangladesh** proposes a special support programme for developing country parties in particular for LDCs and SIDs, including

- *"Setting up of an International Centre for Research and Training on Adaptation.*
- *National capacity self-assessment and capacity building.*
- *Supporting the developing country parties in particular LDCs and SIDs in formulating their adaptation strategies, and associated programmes and projects to address the adaptation needs.*
- *Support institutional and human resource capacity building for the implementation of assessed programmes and projects for meeting the adaptation needs.*
- *Development of new and innovative support mechanisms such as micro insurance, micro credit, weather derivatives and other related tools*
- *Role of different UN and other multilateral agencies in providing the required services for adaptation."*[18]

[13] UNFCCC 2008a: 33
[14] UNFCCC 2007b
[15] UNFCCC 2008a: 21
[16] UNFCCC 2008a: 23
[17] UNFCCC 2008a: 89
[18] UNFCCC 2008a: 13

It is very likely that those countries seen as particularly vulnerable will receive more attention from the international community and also receive preferential treatment from financing instruments under the UNFCCC and a new international climate change agreement, or, how the **USA** put it in their submission on the AWG-LCA work programme:

"We believe that discussions over the next two years can do much to orient actions at local, regional, national and global levels toward greater attention to adaptation, and to generate resources for these efforts for those countries that are most vulnerable to the impacts of climate change."[19]

Thus there is a genuine interest to be viewed "particulary vulnerable".

2.3 What is the scope and what are the limitations of the Convention?

The Parties agreed to consider 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"* in the Bali Action Plan. This points to an important question: what will be the role of the Convention to facilitate adaptation, and where are the limits of its scope, given the fact that the whole Convention agenda has become very complex, that the UNFCCC secretariat has a limited scope, and that adaptation, probably more than mitigation, has to be connected very closely to the circumstances where adaptation is needed to take place? For example, mainstreaming adaptation into development characterised as *"the integration of policies and measures to address climate change into ongoing sectoral planning and management, so as to ensure the long-term viability and sustainability of sectoral and development investments"*[20] is a complex process which has to take place on other levels than on the Convention level. However the question remains: how can it be facilitated by the Convention?

Levina sorts the different key areas identified by Parties to the Convention in five categories:[21]

- a catalyst for adaptation actions at the national and international level
- coordination of adaptation-relevant activities at the international level
- a forum for the exchange of information and knowledge gathering
- a forum to address the needs of countries particularly vulnerable to climate change
- a catalyst for R&D and technology transfer for adaptation.

In addition, the relationship between the Climate Convention and other Conventions that have links to adaptation, such as the United Nations Convention to Combat Desertification (UNCCD) and the Convention on Biological Diversity (CBD), is yet to be defined. Exchange between the secretariats on overlapping areas of responsibility has begun. For example, a document by the Joint Liaison Group of the Rio Conventions (JLG), identified the following possible fields of co-operation :[22]

- providing focal points of all Conventions with up-to-date information on relevant assessments, research programmes and monitoring tools.
- Collaboration on the development of common messages on the links between climate change, biodiversity loss and desertification.

---

[19] UNFCCC 2008a: 88
[20] Klein 2007
[21] Levina 2007: 34
[22] JLG (no date): 12

- Collaboration on development of education materials
- Establishment of joint web-based communication.

But the establishment of more formal links, that could for example be relevant to finance projects or programmes which closely link adaptation with biodiversity, need to be debated and examined more carefully. The next Conference of the Parties (COP) of the CBD that will be held in Bonn in May 2008 prior to the 28th session of the Subsidiary Bodies of the UNFCCC provides an important opportunity to discuss these aspects.

Other related multilateral fora include the International Strategy for Disaster Reduction (ISDR) or the Millennium Development Goals process. The upcoming Financing for Development-Conference in Doha in late 2008 (MDG process) may also discuss innovative financing instruments, which so far have been addressed only in the climate change and adaptation debate.

3 Financing for adaptation in the Bali Roadmap

"The issue of finance is crucial in a future climate agreement."[23]

There is no doubt that this statement made by **Iceland** is true given the large investments that will be needed to limit global warming, preserve global forests and adapt to the consequences of anthropogenic climate change. This chapter will analyse key questions of the financing debate with regard to adaptation.

A number of funding sources exist which could finance the numerous types of adaptation activities. Table 1 provides an overview.

While there is still uncertainty about the full costs of adaptation in developing countries (see box 1), there is no doubt that the financial resources provided through the implementation of the Convention and means such as the Official Development Assistance (ODA) are far from being sufficient to cope with the challenge of climate change. The paragraphs contained in the Bali Action Plan clearly underline the need for financial support of developing country Parties.

Financing in the Bali Action Plan

1 (e) Enhanced action on the provision of financial resources and investment to support action on mitigation and adaptation and technology cooperation, including, inter alia, consideration of:

(i) 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.

(ii) Positive incentives for developing country Parties for the enhanced implementation of national mitigation strategies and adaptation action.

(iii) 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;

(iv) Means to incentivize the implementation of adaptation actions on the basis of sustainable development policies;

[23] UNFCCC 2008: 27

(v) Mobilisation of public- and private-sector funding and investment, including facilitation of carbon-friendly investment choices;

(vi) 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.

The BAP language has to be analysed against the background of key questions related to adaptation financing.[24]

Table 1: Categories of adaptation activities and funding sources

	National government (domestic)	**ODA: bi-lateral and multilateral**	**Private sector**	**Private foundations**	**GEF specialised funds**	**Micro-financing**	**Innovative approaches (e.g., levy on carbon market)**
Regulatory changes	x	x			x		
Institutional changes	x	x		x	x		
Information, outreach, awareness building	x	x		x	x		
Education	x	x		x	x		
Health	x	x		x	x		
Scientific capacity	x	x	x	x	x		
Infrastructure/ Technology	x	x	x		x	x	
Management practices	x	x	x	x	x	x	
Insurance	x	x	x			x	x
Dealing with Extreme events	x	x	x	x	x		
Community practices	x	x		x	x	x	

Source: Levina 2007: 41

[24] see also the submission on the AWG-LCA work programme by the Maldives on behalf of the LDCs, UNFCCC 2008a

3.1 Are adaptation financing resources adequate and sufficiently predictable?

Paragraph 1e)i addresses important shortcomings that so far have hampered the development and implementation of adaptation strategies: **the adequacy, predictability and sustainability of financial resources and financial and technical support.**

A look at the mismatch between estimated adaptation costs and the financial means provided so far through the Convention Kyoto Protocol mechanisms reveals that the current funding is not adequate in the sense that it is not sufficient to cope with the challenges of anthropogenic climate change, primarily caused by the developing world. (see Box 1). It is not an exaggeration to speak of an "adaptation financing rift". The already pledged amounts of money will not even be sufficient to cover the most immediate adaptation needs in LDCs, as outlined in the National Adaptation Programmes of Action (NAPAs). Scaling up the existing NAPAs of Sub-Sahara African countries to all African LDCs alone amounts to estimated costs between USD 350 and about 700 million.[25] Since the difference is a magnitude of order, this would still be the case even if one assumes only a partial responsibility by the developed world for adaptation financing (see also 3.2 and 3.3). The inadequacy of financing is underlined by Parties in the discussion about the AWG-LCA work programme, inter alia by the **Philippines** and **China**. The latter one clearly asks the developed countries to provide the necessary financing to address climate change (both adaptation and mitigation) in the order of *"no less than 0.5% of their total GDP to support actions by developing countries".*[26] This would lie in the order of some 175 billion USD at the moment. Although **China** does not specify which share of this money should be earmarked for adaptation, it shows that this proposal reflects the adaptation costs estimates in developing countries (see box 1).

Box 1: The "adaptation financing rift"

1. Different adaptation "cost factors"[27]

a) adaptation costs on a macro-level in ODA

b) "climate-proofing" of other (non-ODA) existing infrastructure

c) new investments necessary because of climate change (e.g. dams, dykes etc.)

d) adaptation costs on community level (community based adaptation, capacity building by NGOs etc.)

e) adapting poverty reduction to climate change

2. Estimates of annual adaptation costs and the factors included[28] **in developing countries:**[29]

- Oxfam 2007: at least 50 billion USD (cost factors a-d)
- UNDP 2007: 86 billion USD by 2015 (a, b, e)
- UNFCCC 2007: 28-67 billion USD by 2030 (a-c)
- World Bank 2006: 9 to 40 billion USD (a)

---

[25] Harmeling et al. 2007
[26] UNFCCC 2008a: 19
[27] differentiation by the author, deduced from the different cost estimates
[28] attribution deduced by the author from the different cost estimates
[29] all these estimates differentiate in what aspects of adaptation they assess, and there is still a lot of uncertainty about the near-term costs of adaptation for the next two to three decades.

3. Current adaptation-related funding under the Convention and the Kyoto Protocol:

- Investments through mainstreaming adaptation in Official Development Assistance: approx. 100 million USD[30];
- Funds under the Convention: approx. 56 million USD (pledged) for the Special Climate Change Fund (SCCF) and 163 million USD (pledged) for the Least Developed Countries Fund (LDCF)[31];
- GEF Strategic Priority for Adaptation: 50 Mio. USD from 2004 to 2007[32]
- Adaptation Fund under the Kyoto Protocol: ca. 160-950 Mio. USD up to 2012[33]

For the question of costs it is important that the Bali Action Plan addresses the obstacle of insufficient knowledge about the real costs of adaptation (paragraph 1e) vi), as a kind of prerequisite for countries needs assessments. As a consequence, **Uzbekistan** in its submission on the AWG-LCA work programme propose to *"analyse options of financial and technical support for capacity-building in the assessment of the costs of adaptation in developing countries."*[34]

The resources and the instruments which would provide these funds are at the moment uncertain. For example, the two Convention Funds partly financing adaptation – the Special Climate Change Fund (SCCF) and the Least Developed Countries Fund (LDCF) - as well as the GEF Strategic Priority for Adaptation are solely funded by voluntary contributions from developed countries, usually counted as ODA. They depend on national budget decisions and thus are hardly predictable. It is clear that the adaptation financing future beyond 2012 does not lie exclusively in voluntary contributions by industrialised countries. Legally binding quantified targets for adaptation financing could be one option to ensure the provision of funding, but also the implementation of market-based mechanisms linked with climate change mitigation could be another complementary strategy (see 3.4).

3.2 What is understood by "new and additional resources"?

It is important that the developed countries agreed to consider the provision of new and additional resources, especially for developing country Parties. The "adaptation financing gorge" in developing countries remains so huge with present financial instruments that increased financing is not only necessary to live up to the challenge, but also to get the most vulnerable countries on board in a new climate treaty.

The promise of additional resources is as old as the UN Framework Convention on Climate Change. Article 4.3 of the UNFCCC commits Annex II countries to *'provide new and additional resources to meet the agreed full incremental cost of implementing measures…'* including *'preparing for the adaptation to climate change'*. In addition, Article 4.4 states that Annex II countries *'shall also assist the developing country Parties that*

30 UNFCCC 2007b
31 UNDP 2007, Oxfam International 2007b; the delivered money is less than half of what has been pledged, as of December 2007
32 UNDP 2007
33 estimates according to UNDP 2007, depend on the development of the carbon market
34 UNFCCC 2008a: 91

are particularly vulnerable to the adverse effects of climate change in meeting costs of adaptation to those adverse effects.'

However, the issue of "additional" financing is also a contentious one, since by far not all commitments for financing that were made by industrialised countries in the past were kept. The most prominent example is the promise to deliver 0.7% of the Gross National Income for ODA (Official Development Assistance), which only a limited number of countries have realised so far (although the commitment is more than 30 years old). Many stakeholders now argue that adaptation financing should not be counted as ODA, since climate change is seen to be an additional burden that is primarily caused by the developed world. In this sense, support by developed countries is judged as a compensation for harms, but not as aid. But for example, the German government and the German Parliament explicitly express their objective to use funding instruments discussed in the adaptation context to raise Germany´s ODA share, which still lags far behind the 0.7%, albeit increasing. The contributions to the LDCF and the SCCF are also usually counted as ODA.

Although the Bali Action Plan now contains language on "new and additional" financial resources, the following three differences of interpretation may arise:

- Additional to existing adaptation financing provided by developed countries;
- Additional to existing ODA flows;
- Additional to existing ODA commitments (0.7% target).

Many development NGOs interpret the term additional in the third sense. The first reason is that there was no recognition of the developmen threat of climate change in the 1970s, when the 0.7% target was agreed. And secondly because the donor countries as those that have contributed most to the problem through their emissions have a responsibility to cover the costs of coping with the consequences of climate change. Those Parties that address the issue of additionality in their submissions on the AWG-LCA seem to refer to the second option, such as **China** and **Colombia** which explicitly expect financial contributions by the developed countries *"additional to ODA"*.[35]

Although many adaptation strategies overlap with general development objectives, and integrated approaches are principally preferable to stand-alone adaptation projects, large-scale diversion of promised ODA to adaptation is unlikely, since even without climate change the development challenges covered by the ODA fund are already daunting enough.

On the other hand, from a practical point of view, in most cases the costs for adaptation can hardly be distinguished from the "development" costs, due to multiple shared interests and responsibilities. Or it will require huge efforts. Thus a pragmatic approach could be to raise the ODA quota by a certain percentage equivalent to adaptation-related contributions.

Further clarification probably will be an important discussion point in the negotiation process to a new climate change agreement.

[35] UNFCCC 2008a: 19; 21

Box 2: "Voices" on the additionality of adaptation financing[36]

‘Adaptation financing was always intended to be additional. ODA came into place from a different context, that of addressing the problems of disparity between developed and developing countries. The context was not climate change and anyone talking about ODA addressing adaptation, I think, is way out of line.’ (Tanzanian UNFCCC delegate)

‘ODA will never be enough even if the countries meet their ODA commitments, which they are not doing. What you need for adaptation will be in the billions of dollars.’ (Brazilian UNFCCC delegate)

‘You cannot divert funds that are committed to achieve existing development targets such as preventing HIV and AIDS and fighting hunger. For the implementation of adaptation measures, innovative and additional means of funding are needed.’ (Dutch UNFCCC delegate)

3.3 Which instruments will be implemented to provide the adaptation financing needed?

To fill the adaptation-financing gorge existing instruments must be strengthened and new ones must be implemented. The Bali Action Plan mentions the consideration of *"innovative means of funding"*. It is interesting that this paragraph is exclusively related to *"developing country Parties that are particularly vulnerable to the adverse impacts of climate change"*, an expression that is highlighted by the **Maldives** on behalf of the LDCs in their submission on the AWGLCA work programme. A number of funding options are being discussed which altogether would have the potential to fill the gulf identified before (see box 3). The analysis of the Parties´ submissions shows that there is not much specification on preferable instruments at this stage. For example, **Bangladesh** suggests to assess *"sources of funding (including those already discussed such as a carbon tax, aviation tax, raising the percent contributed by CDM activities) that could be mobilised to generate the necessary level of funding."*[37]

Box 3: Proposals to generate additional adaptation funding

There is still a lot of uncertainty about the real costs of adaptation to climate change in developing countries. However, there is no doubt that the costs will be much greater than the funding that is currently available for adaptation financing. In addition to the presently existing funding instruments (see box 1), a number of other instruments are currently being discussed which could play an important role for scaling-up the financial means available.

Extension of the share of proceeds to Joint Implementation and Emission Trading

The extension of the Clean Development Mechanism (CDM) share of proceeds to Joint Implementation (JI, emission reduction projects between developed countries) and Emission Trading will be on the agenda in the context of the review of Art. 9 of the Kyoto Protocol. According to estimates by the UNFCCC, this extension could generate about 10 to 50 million USD annually by 2010.[38] Estimates for a longer timescale will very much depend on the emission reduction commitments taken by Annex- I countries, but probably could reach the order of billions in case of deep emission cuts.

[36] taken from Oxfam International 2007b
[37] UNFCCC 2008a: 16
[38] UNFCCC 2007b

Pakistan in its submission suggest to raise the CDM levy from 2% to 3-5% in order to increase the financial flows into the Adaptation Fund immediately.[39]

Auctioning in the National Emission Trading Schemes (EU and others)

In the context of the European Emission Trading Scheme, many countries have entered into auctioning at least a share of the emission allowances that are given to companies included in the EU ETS for the period 2008-2012. From 2013 on, it is expected that auctioning will gain increasing importance EU wide.[40] Auctioning of 100% in the power sector, as proposed by the European Commission, could generate some 8 billion EUR (20 EUR per tonne CO_2). By 2020, annual revenues could amount to 50 billion EUR in total. Financing for adaptation in developing countries is listed as one of a number of suggested spending purposes. However, the Member States have recently questioned the Commission´s approach of earmarking part of the revenues for specific purposes due to sovereignty reasons.

The German government has decided to auction about 9% and expects net revenues of about 400 million Euro in 2008 which will probably increase over the coming years. After intense discussions, it was also agreed that about 120 million Euro will be spent for international climate change action, half of which is expected to go into adaptation financing.

A recent proposal for climate change legislation in the USA (the so-called Lieberman Warner Bill) also proposes to use part of the revenues from auctioning (5%) for adaptation financing in developing countries. According to estimates from the World Resources Institute (WRI), the present draft would result in USD 1.27 billion per year and growing to USD 2.29 billion a year.[41]

Auctioning on the level of national emission budgets

During the Bali conference, the Norwegian Finance Minister Halvorsen presented an approach of auctioning in the context of allocating national emission budgets. According to **Norway´s** submission on the AWGLCA work programme, it is suggested that a *"small portion of permits could be withheld from national quota allocation, and auctioned by the appropriate international institution. The resulting revenue could then be placed in a fund to be used on adaptation actions or other specified purposes such as technology development."*[42] In the exemplary case of Germany this would generate about 1.3 billion USD a year, assuming that the country would have to purchase 10% of its 2012 allowances for a price of 23.60 USD per tonne CO_2. Even a small percentage of the auctioning revenues would deliver a significant amount of funding for adaptation in developing countries, assuming most or all of the Annex I countries with emission reduction obligations would join in this approach.

Auctioning in international sectors

Another approach could be to auction greenhouse gas allowances for international aviation and shipping, whose emissions so far are not regulated by the Kyoto Protocol. The UNFCCC estimates that by 2010 around 22 billion USD could be generated annually, assuming an allowance price of 23.60 USD/t CO_2 and 100% auctioning.[43]

---

[39] UNFCCC 2008b: 15
[40] As part of the ETS review, the European Commission proposed to auction 100% of the emission allowances for the power sector from 2013 on for the entire EU. In other sectors the level of auctioning is thought to gradually increase to 100% by 2020; see European Commission 2008
[41] WRI 2008
[42] UNFCCC 2008a: 50
[43] UNFCCC 2007b

Levies on airfares and maritime transport (Tuvalu proposal)

In its "International blueprint for adaptation", Tuvalu proposes the following, differentiated modalities[44]:

- a 0.01% levy on international airfares and maritime transport freight charges operated by Annex I nationals;
- a 0.001% levy on international airfares and maritime transport freight charges operated by Non Annex I nationals;
- Exemptions to (a) and (b) would apply to all flights and maritime freight to and from LDCs and SIDS (irrespective of whether the airlines or freight are owned by Annex II or Non Annex I nationals).

At present, no estimates are available on the revenue the Tuvalu proposal could generate.

International Air Travel for Adaptation Levy (IATAL)

Müller and Hepburn suggest the imposition of a tax on International Air Travel for Adaptation Levy (IATAL).[45] According to their calculations a fee of 10 USD per flight could generate 8 billion USD a year. However, it has to be noted that a number of countries (developed and developing countries) have already impose a ticket tax to generate financing for action aiming at the achievement of the Millennium Development Goals (MDGs).

For the post-Bali negotiations it will be necessary to further explore which instruments could generate substantial financing and how (politically) probable and how difficult their implementation is. It is also important to note that similar (or sometimes the same) instruments are being discussed as mechanism that could finance mitigation efforts in developing countries, including the reduction of deforestation.

It will important for the success of a new and progressive framework that mechanisms to generate funding for adaptation (and other climate change activities) contribute to mitigation where appropriate, including those already existing under the Convention/Kyoto Protocol, but also new ones.[46] For example, **Colombia** in its submission on the AWG-LCA work programme highlights *"the need of increased financial flows and additional incentives for adaptation in developing countries, in particular through the flexibility mechanisms of joint implementation and emissions trading."*[47] This has two important advantages.

First of all, it furthers the implementation of the polluter-pays principle and secondly, it has some beneficial strategic implications for the upcoming negotiations. The necessary funding for adaptation, technology and forest protection will only be generated in case of a new climate change agreement, for which the emerging economies and other developing countries will also have to contribute actions to mitigate greenhouse gas emissions. This linkage may strengthen the evolving coalition of developing countries and progressive industrial nations that benefits both groups equally. This way the climate regime can become a self-financing system. Some of the potential financing instruments follow this principle. Investigation of these instruments (and other proposals that might be developed) after Bali not only requires technical and economic investigation, but also an understanding of the political will of the Parties.

---

[44] Tuvalu 2007
[45] Mueller/Hepburn 2006
[46] Bals et al. 2008
[47] UNFCCC 2008a: 22

3.4 Who should pay and how much? Responsibility and capacity

Some of the new adaptation financing instruments discussed above would generate money independent from national budget decisions. However, the question "Who should pay for adaptation and how much?", related to the particular responsibility of the developed countries as the main causers of climate change, still needs to be answered, assuming that governments' contributions will play an important role to generate funding. Or, how **Sri Lanka** put it in its submission on the AWG-LCA work programme, *"with regard to funding for mitigation, adaptation and emission reduction, we are of the view that the Annex I countries hold the responsibility and moral commitment".*[48]

Unfortunately, the Bali Action Plan does not address this question sufficiently. While in the mitigation section the developed countries agreed to financial and capacity-building support to developing countries in a *measurable, reportable and verifiable manner (1b) ii),* which also implies the development of indicators, there is no similar language in the parts related to adaptation financing. Different publications have developed concepts for a more systematic distribution of the financial burden for adaptation.

Oxfam developed the **Adaptation Financing Index (AFI)**, which includes the responsibility (per capita emissions from 1992 on) and the capability (expressed by the performance of countries in the Human Development Index, HDI).[49] All countries with an HDI below 0.9 are excluded from a "duty" to contribute to international adaptation financing, so only some developed nations remain. The EU and the USA together should provide more than 75% of the adaptation financing. Russia due to its low HDI is judged as not being capable, but has per capita emissions higher than Germany. Thus countries with high per capita emission and insufficient investments inhuman development are excluded by this approach.

The **Greenhouse Development Rights Framework** developed by EcoEquity and others starts from equal per capita emission rights and "allows" each human being a minimum level of emissions that is required to fulfil minimum development needs (expressed in per capita income thresholds, purchasing power parity). It thus does not explicitly address the issue of historical responsibility, but sticks to the capacity of countries and their inhabitants to pay for climate change adaptation. Since so far wealth has been produced with emissions in almost all countries, it implicitly addresses the issue of responsibility for climate change. Table 2 shows the shares of contributions (RCI columns), according to different income thresholds. The USA and the EU would be responsible for around 60% of the financing needed. This concepts reflects income disparities within countries, which is particularly important since also in the developing world the number of people living (and emitting) on developed countries level is growing. It addresses the global rich and the global poor, rather than only distinguishing between rich countries and poor ones. One consequence would be that also emerging economies such as Brazil, China and South Africa would have their share in financial contributions. The LDCs would have no responsibility and capacity for that.

---

[48] UNFCCC 2008a: 78
[49] Oxfam International 2007a

Table 2: Comparison of share of global Responsibility and Capacity Indicator (RCI), national bill at 1 percent of GWP, and per capita bill at 1 percent of Gross World Product (based on fraction of population over development threshold) for development threshold of $6,000, $9,000 (reference case), and $12,000.

	Percent of global RCI			Bill at 1 percent of GWP ($ billion PPP adjusted)			Average individual bill at 1 % of GWP ($)		
Capacity weighting	**0.8**	**0.6**	**0.4**	**0.8**	**0.6**	**0.4**	**0.8**	**0.6**	**0.4**
Responsibility weighting	**0.2**	**0.4**	**0.6**	**0.2**	**0.4**	**0.6**	**0.2**	**0.4**	**0.6**
United States	33.1	34.3	35.4	205	212	219	753	780	804
EU (27)	27.8	26.6	25.4	172	164	157	389	372	355
United Kingdom	4.5	4.3	4.1	28	26	25	481	458	432
Germany	5.6	5.5	5.5	34	34	34	432	428	423
Russia	1.9	2.3	2.9	12	14	18	156	194	240
Brazil	1.8	1.6	1.4	11	10	9	221	193	168
China	7.1	7.0	6.9	44	43	43	143	142	140
India	0.4	0.3	0.3	2	2	2	57	51	47
South Africa	0.9	1.1	1.2	6	6	7	338	382	433
LDCs	0.0	0.0	0.0	0	0	0	10	7	5
All high income	78.7	78.5	78.1	486	485	482	520	519	517
All middle income	20.8	21.1	21.5	129	130	133	168	170	173
All low income	0.5	0.5	0.4	3.0	2.8	2.5	60	55	50
World	100.0	100.0	100.0	617	617	617	353	353	353

Source: Baer et al. 2007

Since the financial demand to cope with climate change and to keep it to below 2° temperature increase is massive, not only for adaptation, it is very important that such concrete concepts, based on the vision of climate equity, are being developed and discussed. But it will also require the Annex-I countries to assess the adequacy of funding that they have been willing to raise so far. For example, **Iceland** *"will use the period of work of the AWG-LCA to re-evaluate its financing of climate affairs with regard to both domestic and international action, with a view to significantly enhance it as a contribution to a strengthened international climate agreement."*[50]

3.5 How will adaptation financing be spent? Decisions and priorities

Even if sufficient adaptation financing to fill the rift could be generated through whatever instrument, the question of **where, how and with which focus the money would be spent** would still remain. The answer to "where" is closely connected to the definition of the particularly vulnerable countries (see 2.1).

Decision-making structures

The "How" relates to the structures that decide on the spending of the money. **Micronesia** in its submission on the AWG-LCA work programme calls for a *"democratic decision making process."*[51] The Adaptation Fund Board (see 5.1) obviously comes closest to what can be called a democratic decision-making process, with all world regions being equally represented plus extra seats for LDCs, SIDS and one each for Annex I and non-Annex I countries. Each seat has one vote. This is fundamentally different from other decision-making structures that are relevant for this debate, in particular that of the World Bank

[50] UNFCCC 2008: 27
[51] UNFCCC 2008: 43

related Global Environment Facility (GEF). There, the economic power of the development aid donor countries plays an indirect but significant role.

But today it is totally unclear which role the Adaptation Fund will play beyond spending the money generated through the flexible mechanisms. While it is possible that developed countries fill up the Adaptation Fund with extra money, so far it is not foreseeable to what extent this will happen. Probably one prerequisite for greater commitments of them will be that the Adaptation Fund proves to be well-functioning in terms of effective project selection and spending of the money. But recent developments also raise concerns that the developed countries prefer to deliver money to those mechanisms where their influence is greatest, such as the World Bank. As part of its G8 presidency work, Japan proposed a new financial mechanism with a scale of 10 billion USD. This proposal has been addressed by recent World Bank work to set up new Climate Investment Funds (CIFs). Each of the four proposed funds – a Clean Technology Fund (target size 5-10 billion USD), a Forest Investment Fund (target size 300-500 million USD), a Climate Resilience Pilot Program (target size 300-500 million USD), and a Strategic Climate Fund - should have an own governance structure. According to a concept note only representatives from donor countries would have decision functions, and recipient countries would only be invited as non-voting members:

"It is proposed that voting members of each fund be contributors to the fund. […] The Climate Investment Fund Administrative Unit would convene an annual outreach forum to bring together donors, recipients and stakeholders."[52]

This approach would mean a major step backwards in terms of a democratic governance structure orientated at those who are the targets of the money.[53] One statement of **Argentina** in its submission on the AWG-LCA work programme may be interpreted as referring to this proposal:

"Finally, we would like to emphasise that new, financial mechanisms and instruments for adaptation created outside the Convention should coordinate with the mechanism developed under the Convention, with an emphasis on transparency, efficiency, and equity."[54]

The particular role of the Adaptation Fund and its relationship to outside financing efforts, has been stressed , inter alia by **Argentina**:
"In this sense, we urge the AWGLCA to explore, as part of its work program, new and innovative mechanisms to drive developed countries, in a reasonable and fair fashion according to their historic and current national circumstances, to greatly increase their contribution to the Adaptation Fund"[55],

and by **Uzbekistan**:

"Establish cooperation with Adaptation Fund for consolidated efforts on financing adaptation projects and programmes in developing countries."[56]

These two statements make clear that the Adaptation Fund is increasingly seen as the primary financing structure on adaptation by developing countries, and channelling means generated through other instruments into the Adaptation Fund would prove a favourable option. If the Climate Investment Fund initiative would develop to be the developed countries' strategy to bypass the more democratic governance structure of the Adaptation Fund, this could hardly be called a trust-building strategy.

---

[52] World Bank 2008: 4, 5
[53] Mueller/Winkler 2008
[54] UNFCCC 2008a: 6
[55] UNFCCC 2008a: 6
[56] UNFCCC 2008a: 91

However, it is also worth mentioning that there are doubts regarding the developed countries' will to spend huge amounts of money into funds that the national governments or parliaments have little control of. This is at least the perception that Germanwatch has experienced in many talks. One option to deal with this problem could be the development of regional adaptation cooperation funds, e.g. between the EU and Africa. Criteria and modalities for such "neighbourhood funds" should either be agreed on an international level (e.g. the UNFCCC COP) or be replicated from existing structures, such as the Adaptation Fund, to ensure consistency with international processes.

Funding priorities

Regarding the focus of adaptation spending, some countries call for prioritisation. For example, **Argentina** sees the need to work on *"well-defined indicators to determine adaptation priorities"* during the AWG-LCA in conjunction with the Adaptation Fund Board.[57] Bangladesh also lists the *"prioritisation of activities for funding and the principles for such prioritisation"* as an important agenda item.[58]

Tuvalu made an interesting proposal in its International Blueprint for Adaptation of how the means available in the Adaptation Fund could be accounted to different purposes, which touches both the regional questions as well as priority activities.

Table 3: proposed accounts in the Adaptation Fund

Account name	Percentage allocation	Primary Use
A	7%	Vulnerability assessments for Non-LDC[15] SIDS and low income communities
B	8%	Rapid Adaptation Plans (RAPS) for Non-LDC SIDS and low income communities
C	10%	Pilot projects identified in RAPs
D	40%	Building Long-term Resilience for LDCs, SIDS and low income communities
E	10%	Vulnerable Species and Habitats in LDCs, SIDS and low income communities
F	25%	Impact Compensation Mechanism (insurance) for LDC, SIDS and low income communities

Source: Tuvalu 2007

However, one question that has not be addressed by neither the Bali Roadmap nor by Parties submissions on the AWG-LCA work programme is which role the communities, the people mostly at risk from climate change, will play in this debate. According to the British development NGO *Tearfund*, the *"primary objective of adaptation activities must be to build resilience and adaptive capacity in local communities. These communities should participate in planning, decision-making and implementation."*[59]

However, no particular mention of vulnerable groups below the national level can be found in the Bali Action Plan. One can argue that it is not surprising that the nation states

[57] UNFCCC 2008: 6
[58] UNFCCC 2008: 16
[59] Tearfund 2007: 2

that are the key player in the UN do not touch on that issue. Some may argue it would question their sovereignty rights. But fairness in adaptation to climate change will only be reached if those that are most affected are not being left aside and ignored by policymakers and implementing agencies. There exists numerous and promising examples of community-based adaptation.[60] But even more important is that there exists a clear mandate, based on a human rights based approach, to bring the most affected into the focus of international and national adaptation strategies and support mechanisms.[61] Climate change can violate human rights, inter alia regarding the Right to Food, to Life and Security and to Health, and governments who want to engage in adaptation strategies (which they hardly can avoid) should be aware of this human rights dimension.

At least it will be possible to finance community-level activities through the Adaptation Fund.[62] But this does not mean that communities themselves or community organisations will be able to access the funds directly (see 5.1.3). Implementing Entities themselves or their proposals must be agreed on by national institutions (in particular the UNFCCC focal points), according to the draft version of the invitation to implementing entities.[63] Thus, the responsibility to care for community-level involvement remains with national governments and can not be bypassed in case governments do not pay attention to it.

But even if the Adaptation Fund or other relevant instruments would have available USD 50 billion now, it is questionable if the most vulnerable countries (and also the rest of the world) are in a stage where they could spend the whole money effectively on adaptation purposes. The "absorptive capacity" is still limited. Spending the money effectively raises the same questions that the "aid effectiveness" agenda has to deal with, although adaptation is not only about ODA. But structural aspects in national political institutions, potentials and limitations of approaches like budget or programme support will also be important for the adaptation agenda.

3.6 How can adaptation in developing countries be further incentivised?

To maximise the adaptation benefits realised through increased financial flows, it is also important that the instruments and channels for disbursement of the financial means incentivise further adaptation in the target countries, which must not be restricted to the role of "co-financing" as an incentive. The Bali Action Plan contains this incentive dimension explicitly for adaptation in paragraph 1e) ii and iv. The Parties agreed to consider *"positive incentives for developing country Parties for the enhanced implementation of national mitigation strategies and adaptation action"* (ii) and *"means to incentivize the implementation of adaptation actions on the basis of sustainable development policies"* (iv). This sentence can also be interpreted in a way that close interaction and synergies between national sustainable development policies, poverty reduction in particular, is envisaged. Clarifying the role and nature of positive incentives for developing country parties remains one task for the work programme of the AWG-LCA, as the Maldives on behalf of the LDCs underline in their submission.[64]

One group of instruments being discussed are insurance-related mechanisms. They are increasingly gaining attention in the climate policy debate. A key role of insurance in this context is to make climate-related risks transparent and show where adaptation is neces-

[60] see e.g. http://www.cba-exchange.org
[61] Oxfam International 2008
[62] Decision 5/CMP.2
[63] Adaptation Fund 2008b
[64] UNFCCC 2008a

sary. When well-designed they can set incentives for effective adaptation. The expert network Munich Climate Insurance Initiative (MCII) also sees *"a clear responsibility of the industrialised countries to support insurance related systems for the increasing damages and losses in developing countries".*[65] In this way it is another kind of financing instrument. A number of formulations in the Bali Action Plan can be connected to insurance:

- Building block adaptation: paragraph 1c)i, ii, iii, v;

- Building block financing: paragraph 1e) iii, iv, vi.

Both Bangladesh and the Maldives on behalf of the LDCs see the need to develop *"new and innovative support mechanisms such as micro insurance, micro credit, weather derivatives and related other tools"*[66] in their submissions on the AWG-LCA work programme. Thus, further exploration of mechanisms to incentivise adaptation is on the agenda of the Post-Bali negotiations and also the Nairobi Work Programme.

Box 4: New concepts concerning risk splitting and risk reduction[67]

1. The frequency of disasters due to weather and climate increases and particularly affected are the most vulnerable people in developing countries who are not able to pay for private insurance. We therefore see a growing necessity for transferring parts of the risk of floods, droughts, hurricanes etc. to global financial and insurance markets and providing incentives for adaptation at the same time.

2. Private insurance alone will not be a solution for people in developing countries who are the most vulnerable but who are not able to pay for private insurance.

3. However, there is a rapid establishment of micro-insurances in developing countries. This development must not be undermined but supported.

4. For answering the question "How can we reach the poor?" we should definitely consider private-public partnerships (PPP). Almost all of the successful insurance systems that offer advantages to the poor in developing countries are PPPs of any kind.

5. Nevertheless, it is important that the involvement of the public authorities should not disturb a major function of insurance: Through insurance the society realises the price of risk – in this case the price of weather extremes. This implies that the risk share of the rate should not be subsidised. The contrary is true. Well designed insurance products can induce the implementation of risk-minimising adaptation measures. One could even think of a system where poor individuals pay their insurance rate by engaging in local efforts regarding flood prevention, drought management or storage of food.

6. One point is to make meteorological and risk-related data accessible. Another point is to enhance the availability of insurance and micro-insurance instruments. Moreover risk allocation programmes for those who are not able to pay for private insurance could be invented and funded by international contributions. One possibility might be to create reinsurance opportunities for micro-insurances and other climate-related insurance instruments. The international community could cover risks that exceed a certain upper limit. Thereby the sensitivity of micro-insurance concepts and other climate-related insurances could be mitigated. Moreover, it would mean a lower rate of payment for the persons concerned. As an example serves the index-based insurance system in Mongolia. Herdsmen are given the possibility to insure against the loss of their livelihood due to winter or extreme events. Minor losses that do not affect the foundation of their business

[65] Bals 2007
[66] UNFCCC 2008a: 13, 34

are paid for by the herdsmen directly. More significant losses however, are transferred to the private insurance industry. And the highest range of losses from disasters are covered by the World Bank. Multi-donor organisations might take this role in future, possibly in cooperation with the World Bank.

7. Where should the money come from? From our point of view Annex I countries should make binding commitments to contributing fixed annual contributions according to the principle of common but differentiated responsibilities and capabilities. It is crucial that the fund raising is done in a way that stimulates mitigation of greenhouse gases. The vision is a self-financed climate regime comprising a global system and regional subsystems.

8. What should be done next and who should do it? It does not make sense to start off with a global approach but it is better to gain experience fast in some particularly vulnerable regions. An African insurance organisation might be an appropriate start due to the exceptional vulnerability of the continent. An alternative starting point might be seen in creating an insurance fund to support the necessary substantial transformation in the small island states (AOSIS).

9. Insurance instruments alone do not provide a sufficient solution to the problem. However, they can serve as an important part of an adaptation system that is drastically gaining in importance.

4 Technologies and technology transfer for adaptation in the Bali Roadmap

Most of adaptation strategies also incorporate a technology component, assuming a broader definition of technology which includes "soft technology", e.g. knowledge of applying, adapting and advancing technologies.[68] Table 2 covers some technologies. Many more exist in different sectors like water resources, public health, agriculture etc.

However, discussion on technology transfer in the UNFCCC and elsewhere have focused very much on technologies for mitigation, such as renewable energy or energy efficiency technologies. This was also one of the most contentious issues in Bali (see 4.2). However, the instruments needed to foster the transfer of climate change adaptation technology do not differ very much in principle. The principle goal is to overcome barriers that impede the innovation and distribution of relevant technologies. A recent UN workshop in the context of the Nairobi Work Programme on Vulnerability, Impacts and Adaptation (NWP) distinguished two categories of barriers:[69]

- Barriers associated with resource constraints
- Barriers relating to a lack of scientific and technical capacities and to socio-economic aspects
  - Limitations regarding the integration of adaptation into development
  - Lack of technical and institutional capacity.

Activities to foster technology transfer include the preparation of technology needs assessments as some kind of precondition to decide which technologies should be preferred, financing instruments (which have been discussed before), capacity building for the application of technologies as well as the creation of enabling environments for the dissemination of such technologies.

---

[69] Gutierrez 2007

Table 4: examples for infrastructure technologies for adaptation

Hard technologies	Soft technologies
Building sector	
• Lay out cities to improve the efficiency of combined heat and power systems and optimize the use of solar energy • Minimize paved surfaces and plant trees to moderate the urban heat island effects and reduce the energy required for air conditioning	• Limit developments on flood plains or potential mud-slide zones • Establish appropriate building codes and standards • Provide low-income groups with access to property
Transportation sector	
• Cluster homes, jobs and stores • Control vehicle ownership through fiscal measures such as import duties and road taxes as well as through quotas for vehicles and electronic road pricing • Develop urban rail systems	• Promote mass public transportation • Use a comprehensive and integrated system of planning • Link urban transport to land-use patterns
Industrial sector	
• Use physical barriers to protect industrial installations from flooding	• Reduce industrial dependence on scarce resources • Site industrial systems away from vulnerable areas

Source: UNFCCC 2006

Technologies and technology transfer in the Bali Action Plan

1d) Enhanced action on technology development and transfer to support action on mitigation and adaptation, including, inter alia, consideration of:

(i) Effective mechanisms and enhanced means for the removal of obstacles to, and provision of financial and other incentives for, scaling up of the development and transfer of technology to developing country Parties in order to promote access to affordable environmentally sound technologies.

(ii) Ways to accelerate deployment, diffusion and transfer of affordable environmentally sound technologies.

(iii) Cooperation on research and development of current, new and innovative technology, including win-win solutions.

(iv) The effectiveness of mechanisms and tools for technology cooperation in specific sectors.

As part of the past work of the Expert Group on Technology Transfer (EGTT), technology needs assessments (TNAs) for many developing countries have been prepared. NAPAs also provide useful knowledge regarding countries needs on technologies that could be transferred. However, Bangladesh expresses the need for a *"stocktaking on the work of the EGTT before making any recommendation on the revision or updating of the Technology Needs Assessment Guidelines developed by UNDP".*[70]

Regarding the negotiation language, an important outcome reflected in the negotiation language is that the objective is *"scaling up"* of the development and transfer of technologies (1d)i), which makes clear that more must be done than has been the case. Financial and other incentives are also mentioned, which relates back to the building block of financing. Bangladesh also calls for an assessment of the efficiency and of the potential for scaling-up of existing technologies for adaptation and asks the AWG to *"initiate a process of making an inventory (sector wise), facilitate modifications of different technologies including their scaling up, and facilitate/accelerate deployment, diffusion and cooperation on research and development of current, new and innovative technology, including win-win solutions."*[71]

Considering *"the effectiveness of mechanisms and tools for technology cooperation"* (1d) iv) is one of the most innovative parts of the decisions. So far there has not been any measurable indicators to assess and evaluate the effectiveness of technology transfer. Developing these is now part of the work programme of SBSTA and the SBI. Indicators thus could offer a basis to better hold accountable those that are expected to foster technology transfer, especially the Annex I countries.

Overall, there is good reason to assume that the lack of financial means available is the key impediment for an increased distribution of adaptation technologies. Investment in technology hardware requires resources, capacity building to improve people´s ability to implement and use technologies as well as to design incentive frameworks requires resources etc. Massively increasing the available resources is a key challenge (see chapter 3).

Finally, it is interesting that a number of countries – inter alia Bangladesh, the Maldives on behalf of the LDCs, Rwanda and Sri Lanka – address the issue of transfer of environmental unfriendly technologies, the "dumping of redundant technologies from North to South", as the Maldives expressed it. Not much attention has been paid so far to this side of technology transfer in the adaptation debate. As a consequence, the Maldives call for a "Technology Transfer and Development Board" with the objective *"to facilitate technology transfer and its screening before transfer from North to South or even South to South."*[72]

[70] UNFCCC 2008a: 14
[71] UNFCCC 2008a: 15
[72] UNFCCC 2008a: 35

5 Building trust? Further adaptation-related decisions in Bali

In addition to the negotiations on the Bali Roadmap, some important decisions were taken in Bali which had adaptation on their agenda. These could to some extent be interpreted as an element of trust-building and early action. However this should in no way imply that sufficient early action has been taken in Bali.

5.1 Operationalisation of the Adaptation Fund

One of the most concrete decisions and at the same time one of the most contentious debates in Bali was the operationalization of the Adaptation Fund in the framework of the Kyoto Protocol. The AF will be financed from the 2% levy on the emission reductions traded under the Clean Development Mechanism (CDM). After having agreed on important aspects such as the eligibility criteria in Nairobi 2006, there were outstanding issues in particular with regard to institutional questions that needed to be resolved before the AF could come into operation. The most relevant decisions taken in Bali in this regard will be explained shortly thereafter.

5.1.1 Functions of the different institutional components

Three institutional elements were seen to be necessary in order to operationalize the AF: the Adaptation Fund Board, a secretariat and a trustee. The functions of these three elements needed to be fixed. Although this may sound trivial in the first instance, these decisions have important implications regarding the power of the respective elements. Given the fact that the AF will possibly manage billions of USD in the midterm, the floors of the Bali Convention Centre in fact became subject to fights over power. In the centre of these discussions was the Global Environment Facility (GEF). This body, closely related to the World Bank, inter alia manages the existing climate change funds established under the Convention, the Least Developed Countries Fund (LDCF) and the Special Climate Change Fund (SCCF). The GEF was proposed by the EU as the managing entity as early as of 2006 which today must be seen as a strategic mistake, since many developing countries, especially the LDCs, are not satisfied with the work the GEF has done so far in the field of adaptation in specific, and how it manages funds in general. One of the reasons for this opposition is the strong role of the donor countries in the GEF Council. While the EU again proposed the GEF as the secretariat in Bali, in the beginning developing countries were still very reluctant to ratify this proposal. According to different delegates, the GEF then started to lobby strongly in their own interest, what probably is not supposed to be their mandate.

In principle it would have been possible to decide on all other outstanding issues and postpone the decision on the secretariat, e.g. after the AF Board´s constitution. However it has to be noted that the developing countries did not make a proposal alternative to the GEF. Finally, the GEF was invited to serve as the secretariat on an interim basis, however with a strictly limited power. All the decisive functions – like the development of strategic priorities, policies and guidelines, the decision on the projects including the allocation of funds etc. – are with the AF Board, which will hold its meetings in Bonn, the location of the UNFCCC, and not in Washington, where the GEF is based.

5.1.2 Composition of the Adaptation Fund Board

Following the issue of the competency of the AF Board the composition of the Board is important. Since the AF was set up to financially support adaptation in developing countries, in the most vulnerable in particular, and since it is not financed by budget resources provided by developed countries, anything else than a majority of developing countries in the Board would be unfair and unrepresentative. Table 5 shows the composition as it was agreed on in Bali. Developing countries will have the majority in the Board , however not necessarily the LDCs and the SIDS which are usually those classified as being particularly vulnerable to the adverse impacts of climate change. Regarding the decision-making, a consensus is envisaged and if not reached a two-thirds majority takes the decision.

Summarising these relevant decisions on the AF, the chair of the LDCs negotiating group commented as follows: *"This is a major victory,"* said Amjad Abdullah. *"The African countries, small island states and least developed countries stuck together and fought for a dedicated secretariat with a representative governance board that has special places for the most vulnerable nations."*[73]

Table 5: Composition of the Adaptation Fund Board

Country group	Number of members	Board members (alternate members)[74]
Africa	2	Senegal, South Africa (Kenya, Egypt)
Asia	2	Qatar, Mongolia (Indonesia, Uzbekistan)
Eastern Europe	2	Poland, Albania (Russia, Ukraine)
Group of Latin American and Caribbean countries (GRULAC)	2	Jamaica, Uruguay (Cuba, Argentina)
Western European countries and Others Group (WEOG)	2	Switzerland, Germany (Norway, Finland)
Small Island Developing States (SIDS)	1	Tuvalu/Barbados (Maldives)
Least Developed Countries (LDCs)	1	Tanzania (Bangladesh)
Annex I (developed countries)	2	Japan, France (Spain, United Kingdom)
Non-Annex I (developing countries)	2	Colombia, Pakistan (Ghana, Lesotho)
	16	

Source: Adaptation Fund 2008c

[73] Tiempo Climate Newswatch 2007, week ending on 23rd December 2007, http://www.cru.uea.ac.uk/tiempo/newswatch/

[74] Adaptation Fund 2008c; members shall serve for a term of two years (December 2007 to December 2009) and are then followed by alternate members; all shall be eligible to serve a maximum of two consecutive terms (see decision 1 / CMP.3)

5.1.3 Access to the Adaptation Fund

Who will be able to apply for project or programme support from the AF? Only governments, or also NGOs which sometimes have built up useful experience in cooperating with the communities first affected by climate change? It is not surprising that the provisions on access to the AF primarily address the role of the Parties, since these had to decide on the accessibility and usually take care of their sovereignty. Direct access by Parties, *"without having to go through 'implementing agencies' such as the World Bank, UNDP, or UNEP."*[75] However the formulation in paragraph 29 leaves space for interpretation if non-state actors could also apply, at least as long as they are chosen by governments as implementing or operating entities and are seen to be able to implement projects:

"Decides that eligible Parties shall be able to submit their project proposals directly to the Adaptation Fund Board and that ***implementing or executing entities chosen by governments that are able to implement the projects funded under the AF*** *may also approach the AF Board directly;"*

This formulation is a bit ambiguous and also could be interpreted in the way that non-state actors could only directly address the AF when they apply with the projects planned by the government, but not necessarily with own projects separate from government plans. The draft "Provisional operational policies and guidelines for Parties to access resources from the Adaptation Fund", in conjunction with the draft version of the "Invitation to Implementing Entities to cooperate with the Adaptation Fund Board" provide a clearer understanding of how this paragraph is interpreted by the AF secretariat:

Two ways of access are being proposed: Direct access by the Parties through a nominated in-country executing entity or access through an Implementing Entity recognised by the AF Board.[76] The draft invitation further specifies that *"such entities meet the administrative and financial management guidelines adopted by the Adaptation Fund Board, and the project proposals are endorsed by the relevant UNFCCC national focal points."*[77]

Thus, involvement of national governments in one way or the other is a prerequisite for funding by the Adaptation Fund.

5.1.4 Funding of the Adaptation Fund

Three other decisions taken in Bali which will play a role for the resources available in the AF should be mentioned.

The **first** is related to the CDM which at present is the only funding basis for the AF. In order to improve the competitiveness of CDM projects in LDCs, it was decided to exempt CDM projects in this country group from the share of proceeds, meaning the AF levy. However, since the reason for this decision is the fact that almost no CDM projects have been implemented so far in LDCs, the financial consequences for the AF will be very limited.

The **second** is related to the issue of broadening the funding basis of the AF. One option that is increasingly being discussed is to extend the share of proceeds to the other flexible mechanisms of the Kyoto Protocol, Joint Implementation (JI) and Emission Trading. A decision for this extension has not been taken yet, but it appears as one of the issues that

[75] Mueller 2008
[76] Adaptation Fund 2008a
[77] Adaptation Fund 2008b

should be addressed in the second review of Art. 9 of the Kyoto Protocol. It is possible that the extension will be agreed on in the next COP in Poznan 2008. However, consensus is not ensured yet. The Ukraine, for example, expressed concerns and even threatened to reject the Art. 9 decision and also the drafts for the Bali Action Plan (see below) in the final negotiations in Bali. Recording a protest note deterred Ukraine from this step.

Thirdly, since the AF is primarily funded through the CDM share of proceeds, its prospects are directly linked to the scale of emission reduction commitments by Annex I countries in the post-2012 context. The deeper the emission cuts, the higher will be the volume of CERs demanded and traded. Although the Bali Action Plan, the Convention part of the Bali Roadmap, only contains emission reduction figures implicitly – due to the strong resistance of the USA - , the Kyoto part of the Bali Roadmap, the AWG decision in Bali, explicitly mentions the range of 25-40% emission reductions by 2020 (compared to 1990). This is an important signal to the carbon market and thus also for the funding of the AF.

5.2 Technology transfer

The technology transfer debate is as old as the Rio Conventions, but lacked innovative impulses during the last years. In Bali, primarily the perception that Annex I countries offered too little to foster technology transfer to developing countries almost led to the "blow-up" of the whole conferences, when neither SBSTA nor SBI could agree on decision texts in their final night before the ministerial level started. After additional negotiation rounds, eventually decisions were reached.

The following five areas are seen to be particularly relevant in the context of technology transfer in the Convention:

- Technology needs and needs assessments
- Technology information
- Enabling environments for technology transfer
- Capacity building for technology transfer
- Mechanisms for technology transfer.

The technology package agreed on in Bali entails different elements. One with particular importance is the extension of the mandate of the Expert Group on Technology Transfer (EGTT), whose primary task is to analyse and identify measures to enhance technology transfer. In Nairobi in 2006 the mandate was only extended by one year, since there where different opinions between developed and developing countries on what should be the further focus of the EGTT´s work. While the developing countries preferred a stronger focus on action-oriented measures, especially in the field of adaptation, the developed countries tended to support a business-as-usual approach.[78]

In Bali the Parties agreed on a new five-year mandate of the EGTT.[79] Given the relevance of technology transfer in the Bali Roadmap and for the development of a post-2012 regime, this extended mandate allows the EGTT to play an important role on the path to this agreement. This perspective is explicitly addressed in the respective COP decision.[80]

In addition, the Global Environment Facility has been requested to *"elaborate a strategic programme to scale up the level of investment for technology transfer to help developing countries address their needs for environmentally sound technologies…."*[81] . It needs to

[78] WWF 2007
[79] FCCC/CP/2007/L.4
[80] FCCC/CP/2007/L.4
[81] FCCC/CP/2007/L.2, 3

be seen how this strategic programme looked like, and the focus of the technology transfer debate was clearly on the mitigation side. However, the developing countries negotiated with a well-tuned strategy and made clear that this is an issue of crucial importance for their willingness to act constructively in the upcoming negotiations.

Another element decided on was to hold an expert meeting on adaptation technologies before the next session of the Subsidiary Bodies in June in Bonn, with a view to give input into the Nairobi Work Programme (see 5.4).

5.3 Continuation of the Least Developed Countries Expert Group (LEG)

The mandate of the expert group set up to assist the LDCs in the implementation of the Convention has been extended in Bali. Inter alia, this ensures that the LEG can support the LDCs with the implementation of their National Adaptation Programmes of Action (NAPAs). By December 2007, 26 LDCs had submitted their NAPAs to the UNFCCC secretariat. Since the NAPAs are designed to assess the most urgent adaptation needs and to identify priority projects, immediate implementation of the projects is meaningful to enhance the adaptive capacity of the countries. However, adequate financing for all NAPAs has not been secured so far, with only 163 million USD being pledged to the LDCF. The costs for African LDCs alone amount to some 350 to 700 million USD.[82] The LEG has also been asked to set up a work programme until June which entails actions needed with reference to relevant UNFCCC processes, such as the NWP.

5.4 Nairobi Work Programme on Impacts, Vulnerability and Adaptation (NWP)

The Nairobi Work Programme was adopted during the 2006 COP in Nairobi and built on previous COP decisions. Its main objectives are to a) improve the Parties' understanding and assessment of impacts, vulnerability and adaptation and to b) assist in making informed decisions on practical adaptation actions and measures to respond to climate change on a sound scientific, technical and socio-economic basis.[83] Since then, its adoption workshops on climate-related risks and extreme events and on adaptation planning and practices have taken place in Cairo and Rome, just to name two activities. A recent document gives an overview of the objectives and the activities of the NWP.[84] In Bali, the secretariat presented a number of synthesis reports, in addition to the two workshop reports.

Also, the establishment of an expert group and its potential functions were on the agenda. Before the COP it became clear that there are different opinions regarding the necessity of such an expert group. On the one hand different expert groups already exist in the UNFCCC framework, an overlap of activities should be avoided. On the other hand, the SIDS have underlined the need for advice to sort out the many information gathered through the NWP. Finally, there was no decision in Bali. The secretariat was asked to provide the Parties with a "lessons learned" report on the inclusion of experts in the context of the NWP until the 2008 in Poland. This report should serve as a basis for further consideration on the establishment of an expert group.[85]

---

[82] Harmeling et al. 2007
[83] UNFCCC 2007c
[84] UNFCCC 2007c
[85] FCCC/SBSTA/2007/L.17

6 Conclusions, challenges and the AWG-LCA agenda

6.1 Conclusions on the Bali negotiations

Adaptation was high on the agenda of the Bali negotiations. It prominently features in the Bali Action Plan, on the same level as mitigation. The Bali Road Map is still a vague framework for the negotiations to come in the next months on the way to a post-2012 climate change agreement. It does not contain any figures, e.g. regarding the financial means available. Therefore, only limited conclusions can be drawn regarding the performance in the six minimum requirements for a fair and appropriate agreement that were presented in the introduction.

1. Sufficient and solid funding of adaptation measures and the coverage of damages caused by climate change in the most vulnerable countries, particularly LDCs and small island states. This can be achieved with the help of new and innovative financial instruments:

The figures available from scientific studies clearly state that present funding is insufficient, and the Bali Action Plan in numerous ways addresses this, inter alia through the consideration of providing new and additional resources (1e) i). The particular vulnerable countries are defined – LDCs, SIDS, and further taking into account the needs of countries in Africa affected by drought, desertification and floods (1c) i) – and innovative means of funding to assist the particularly vulnerable are on the agenda (1e) iii).

Investing in adaptation in the North and the South

"Recent investment of hundreds of millions by developed countries in climate adaptation measures in their own countries and reserving potential billions of dollars to protect themselves will further widen the gap between North and South. There should be a fair balance between investments in developed countries to deal with climate change and contribution to adaptation funding for the most vulnerable people in the South."[86]

Maldives on behalf of the LDCs

2. Giving priority to the needs of the most vulnerable groups of the population, based on a human rights based approach[87]*, and to locally developed adaptation approaches against the negative effects of anthropogenic climate change;*

This is probably the weakest part of the Bali Roadmap. Particular vulnerability is only addressed on the level of Parties, of countries. No mentioning can be found anywhere regarding the most vulnerable groups of the population. The only sentence in the Bali Action Plan linked to this question addresses the role of the Convention in *"encouraging multilateral bodies, the public and private sectors and civil society"* (para 1c) v).

Designing the funding guidelines for the Adaptation Fund in a way that applying Parties should pay particular attention to the most vulnerable groups could be an anchor to highlight their needs, but also their experience and capacities which could be worth considering for scaling-up adaptation.

[86] UNFCCC 2008a: 33
[87] see also Oxfam International 2008

3. Scientific and technological support for the expansion of capacities to design and implement adaptation strategies;

Two decisions taken in Bali outside of the 2009 roadmap are important in this regard. The continuation of work mandate of the Least Developed Countries Expert Group (LEG, see 5.3) and the new and stronger five-year mandate for the Expert Group on Technology Transfer (EGTT, 5.2), although the latter one will probably pay more (but not exclusive) attention to mitigation technologies. The Nairobi Work Programme is another important element in strategies to increase capacities to design and implement adaptation strategies. Effectively supporting the work of the Adaptation Fund Board is another key purpose arising after Bali. The very broad definition of adaptation (1c) i) as well as the language of the technology building block address the need for scientific and technological support in the Bali Action Plan.

4. Ensuring that support mechanisms create further incentives (such as insurance based mechanisms) in order to maximise the effectiveness of adaptation strategies;

The term "incentives" in the context of adaptation explicitly appears in the financing text part, where positive incentives for developing country Parties for adaptation (and mitigation) (1e) ii) and *"means to incentivize the implementation of adaptation actions on the basis of sustainable development policies"* (1e) iv) are mentioned. The objective of maximising the effectiveness of adaptation strategies is not mentioned. Further concretisation, which incentive mechanisms could play a role in addition to "simple" flows of financial resources is necessary, since failure to bring about effective adaptation would severely complicate decisions to transfer billions of dollars from industrialised countries to the developing countries, regardless of the justified claims for increased financial transfers.

5. Assessing the political and practical potential of instruments that link mitigation and adaptation purposes.

The Bali Roadmap lacks any explicit wording linking adaptation and mitigation. However, practically there is little doubt that linking mechanisms will be discussed in the search for new and additional resources and the financing instruments needed to deliver these (see 3.4).

Already today it is obvious that the extent to which Annex I countries financially support adaptation measures has two major implications. On the one hand it has an effect on the number of promising strategies that could be developed and implemented and on the other hand it positively affects chances for the realisation of a progressive post 2012 agreement.

From a strategic point of view, it is important that there is a sound potential for building new alliances between certain countries. For example, limiting global warming to 2°C above pre-industrial levels (or even below that threshold) is a vision shared by the EU and Norway, but also by the LDCs and the SIDS. Having a look at the financing instruments being discussed, most of them are linked to mitigating emissions in one way or the other. This indicates that the scale of financing generated will – at least to an important extent – depend on how deep emission cuts will be in developed countries. But it is also very likely that the Annex I countries emission reductions offered will be much higher, if emerging economies engage in serious decarbonisation, which is undoubtedly needed in order to stay below 2°C. Thus, the LDCs and SIDS, which are negotiating jointly with the emerging economies in the G77/China block, should also have a clear interest in urging these emerging economies to intensify their efforts to combine development policies with accelerated decarbonisation. All these aspects will impact on the extent to which a post-2012 agreement will be able to support developing countries' adaptation efforts.

This analysis has shown that none of the answers raised have been answered by the Bali Roadmap. This is not to be expected, since it is only a framework for further negotiations. But all of the important issues addressed in the questions raised are on the negotiation table for a post-2012 agreement. The least attention has been paid to the role of particularly vulnerable groups of the population.

6.2 Implications for the AWG-LCA work programme

The analysis of the Bali Action Plan made clear that a lot of work lies before the negotiators on the issue of adaptation, not mentioning other relevant issues such as mitigation. Or how India´s closing statement in Bali put it:

"The road to Bali was in principle strong, the road from Bali must be much stronger. We need to move forward to Poland to Denmark, and beyond, for what is at stake is saving our future generations. And therefore it is not a question of what you will commit or what I will commit. It is a question of what we will commit together to meet that challenge!"[88]

In early April 2008, the first post-Bali negotiation sessions will take place in Bangkok (Thailand). Setting up the work programme and the respective schedule until the COP 2009 in Copenhagen will be the key objective of the Bangkok Climate Change Talks. In the submissions on this work programme, the **EU** made the most detailed suggestion for a work plan. For the purpose of this paper, we condensed the EU proposal to those aspects directly relevant for the building blocks adaptation and financing, up to the 2008 COP in Poznan. But it is worth recognising the whole work programme proposal, since the four building blocks are inextricably linked to each other.

Table 6: Adaptation related work programme for the AWG-LCA, EU proposal

Date/session	**Activity** (references below are to relevant paragraphs in Decision 1/CP.13)	**Other work under Convention or KP relevant to Bali Action Plan (w.r.t. paragraph 11 of 1/CP.13)**
AWGLCA 1 31 March - 4 April 2008	Agreement on work programme Start consideration/discussion of main concepts for all building blocks. In-session workshop on shared vision, 1 (a): perspectives on low-carbon and climate-safe development pathways to avoid dangerous climate change	10-11 March EGTT meeting to agree work programme
25 April 2008	Further Submissions on issues pertaining to the work programme for next session, including submission on a shared vision.	
16 May 2008	In preparation of AGLCA 2: Secretariat synthesis on the submissions	
AGLCA 2 2-13 June 2008	**Shared vision:** 1(a) Round table **Adaptation** 1(c) (i) in particular: - vulnerability assessments and prioritisation of action - capacity building and response strategies - integration of adaptation actions into sectoral and national planning	**Adaptation**: relevant work under SBI and SBSTA, in particular the informal pre-sessional meeting to consider further actions, based on the information contained in paragraph 1 (a) on the ad-

[88] Quoted in Mueller 2008

	- needs of developing countries that are particularly vulnerable to the adverse effects of climate change **In session workshop** to enhance action on adaptation, focusing on the actions undertaken and experience of parties in integrating adaptation actions into sectoral and national planning. In addition, input from SBI and SBSTA. Secretariat to make presentations on activities and respective conclusions undertaken under decisions 1/CP.10, the NWP and the NAPAs. **Finance and Investment** **In-session workshop** on enhancing finance and investment in support of mitigation and adaptation, with particular attention to the role of the private sector and innovative mechanisms	verse effects of climate change, of the SBI 27 conclusions on Decision 1/CP10, as well as the informal pre-sessional meeting to be held before SBSTA 28 to consider the outcomes of the activities held up to that session.
18 July 2008	Further Submissions on issues pertaining to the work programme for the next session. Financial Flows Paper update from the Secretariat, including detailed analysis of the potential of new mechanisms in relation to the finance and investment needs for adaptation and mitigation and making use of the in-session workshop outcomes.	
AWGLCA 3 August /September 2008	**Shared vision:** continuation **Adaptation** 1(c) (ii) – (iv) Continuation of previous session, 1(c)(i), in particular: - financial needs assessments - specific projects and programmes - other ways to enable climate resilient development - means to incentivise the implementation of adaptation actions **Mitigation and Adaptation** In addition: consider 1(b)(vii) and 1(c)(v) – strengthening catalytic role of Convention **Finance and investment** In relation to mitigation and adaptation Analysis of the updated technical paper by the Secretariat	**Adaptation** Take into consideration the outcomes of the discussion on Decision 1/CP.10 and on the activities for the second phase of the NWP.
17 October 2008	Further Submissions on issues on work programme for next session, in particular on the review and stock take exercise	
AWGLCA 4 1-12 December 2008 (COP14)	**Shared vision** High level Ministerial debate on the shared vision, including a long term goal for emission reductions. **Adaptation** Continuation of 1(c) (i), (ii), (iii), (iv) **Finance** In-session workshop on finance, with a view to integrating finance in relation with mitigation, adaptation and technology Input from other processes conform paragraph 11 of Decision 1.CP/13 Report to COP, stock taking exercise and determination of further work – conform paragraphs 9 and 10 of Decision 1.CP/13, and definition of further work in line with issues identified under paragraph 1 of 1.CP/13 Conclusions, including a focused list of options under each building block to be taken forward for work in 2009	Review of the LDCF

Source: own compilation based on UNFCCC 2008a

The EU suggest to start with negotiations on all building blocks in parallel. A reason for that are for example that financing mechanisms for adaptation and mitigation will probably be linked to the level of emission cuts. However, this parallel approach is not shared by all of the stakeholders. For example, Michael Zammit Cutajar, one of the chairs of the AWG-LCA, suggests to start off with negotiations on the adaptation building block:

"It is better to put adaptation first. All countries have to adapt; this is the message unifying us against our common threat. We cannot save the biosphere in its present form, too much change is already built into the system – an estimated +0.7C over pre-industrial levels so far, and as much another +1C to come. (The EU has supported a +2C maximum target since 1996). Having absorbed that message, we can then understand mitigation as what needs to be done to keep the adaptation challenge manageable."[89]

Ivo de Boer, Executive Secretary of the UNFCCC, in a recent speech argued that *"as part of the initial phase of international climate change negotiations in 2008, there needs to be a focus on designing the mechanisms to support and enable action by developing countries […]."*[90] This can be interpreted in a way that the negotiations should start with the building blocks technology and financing.

Due to the extensive discussions needed in all of the building blocks and their interlinkages, there is good reason to start with parallel negotiations on all four. But it will be interesting how the discussions evolve in Bangkok.

Planning the work[91]

"It will be important to remain focused and results-oriented at this session. The Chair will make efforts to facilitate discussion on:

• "How" and "when" issues will be addressed;

• What arrangements will be needed to facilitate the work.

The Chair will seek inputs, in particular on the following:

(a) How to ensure that issues that are closely interrelated are addressed in a coherent manner?

(b) What issues need to be clarified and what information is required, including submissions from Parties and preparatory work by the secretariat?

(c) What in-session and intersessional activities will be needed and what should they focus on?

(d) What inputs from other ongoing UNFCCC processes will be useful for the work?"

In addition to the question of timing, there are more suggestions worth taking into account.

On a principal level it is important for the process what the **EU** proposes: *"[…] it is of the utmost importance to effectively engage practitioners and stakeholders in the discussions on the elements of an agreement in Copenhagen."* As a logical consequence, representatives from governmental, intergovernmental and non-governmental organisations (including the private sector) should participate in the in-session workshops *"in order to promote an open and constructive exchange of experiences, thus contributing to a more thorough and shared understanding."*[92]

---

[89] Interview with the Malta Independent, 8 March.
[90] UNFCCC 2008c
[91] UNFCCC 2008d
[92] UNFCCC 2008a: 69

Pakistan urges that *"all Parties and stakeholders are required to pool up intellectual, technical, financial and administrative resources and to join forces including Governments, IGOs, NGOs, Private sectors, civil society and individual around the world to combat adverse impacts of climate change."*[93]

On a practical level, suggestions for other submissions and in-session workshops exist, inter alia those made by the Climate Action Network International (CAN):[94]

- Submission on **vulnerability assessments, prioritisation of actions, financial needs assessments, capacity-building and response strategies, integration of adaptation actions into sectoral and national planning, specific projects and programs, means to incentivize the implementation of adaptation actions, and other ways to enable climate-resilient development and reduce vulnerability of all Parties**, followed by an in-session workshop to share good practice examples of effective adaptation of different levels.
- Submission on Parties´ views of **how adaptation of the most vulnerable groups of the population in particular can be most effectively supported.**
- Submission on **potential pilot projects of risk sharing and risk transfer mechanisms (including insurance) for adaptation**, followed by an in-session workshop to explore opportunities for rapid implementation.
- Submission on **innovative financing instruments** that could deliver the magnitude of finance required, including for the provision of new and additional resources and funding for adaptation in the particularly vulnerable parties, followed by an in-session workshop.

In addition to the continueing and intensifying discussion within the UNFCCC, it has been addressed before that there are other discussion processes ongoing in international politics that are relevant for the issues analysed here, such as the Millennium Development Goals (MDGs) process or the International Strategy for Disaster Reduction (ISDR). Also, the G8 have climate change high on the agenda (in particular regarding a long-term mitigation goal relevant for the shared-vision and the Climate Investment Funds of the World Bank). With the agreement of the COP, appropriate inputs from these processes could be brought into the discussions under the UNFCCC for debate by all Parties. Although overloading of the agenda must be avoided, addressing climate change effectively and adequately is a challenge for mankind of an unprecedented scale, and thusall processes, information and stakeholders that could contribute to living up to this challenge should be included in a workable manner.

[93] UNFCCC 2008a: 59
[94] CAN 2008

7 References

Adaptation Fund (2008a): Provisional Operational Policies and Guidelines for Parties to Access Resources from the Adaptation Fund. AFB/B.1/9. http://www.adaptation-fund.org/images/AFB.B.1.9_Provisional_Operational_Policies_and_Guidelines,_February_29,_2008.pdf

Adaptation Fund (2008b): Invitation to Implementing Entities to Cooperate with the Adaptation Fund Board. AFB/B.1/10. http://www.adaptation-fund.org/images/AFB.B.1.10_Invitation_to_IEs_to_cooperate_with_AFB_02.27.08.pdf

Adaptation Fund (2008c): Adaptation Fund Board Members, Alternates. http://www.adaptation-fund.org/images/AFB.B.1.Inf.2_Adaptation_Fund_Board _Members,_ Alternates,_February_29,_2008.pdf

Baer, P., T. Athanasiou, S. Kartha (2007): The Right to Development in a Climate Constrained World. The Greenhouse Development Rights Framework. http://www.ecoequity.org/docs/TheGDRsFramework.pdf

Bals, C. (2007): Munich Climate Insurance Initiative supports the Nairobi Work Programme. Statement to SBSTA at COP 13, Christoph Bals, Germanwatch, on behalf of MCII. 4 December 2007. http://www.climate-insurance.org/upload/20071128_COP_13_MCII_program_web.pdf

Bals, C. (2008): Climate Summit in Bali: start of a hurdle race until Copenhagen. Evaluation of the conference results. Germanwatch briefing paper. http://www.germanwatch.org/klima/bapocoe.htm

Climate Action Network International (CAN) (2008): Views regarding the work program for issues under the Bali Action Plan. http://www.climnet.org/pubs/Bali%20Action%20Plan%20workplan%20submission%20to%20the%20UNFCCC.pdf

European Commission (2008): Draft Proposal for a DIRECTIVE OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL amending Directive 2003/87/EC so as to improve and extend the EU greenhouse gas emission allowance trading system (presented by the Commission) {SEC(2008) xxxx}. http://ec.europa.eu/environment/climat/emission/pdf/com_2008_16_en.pdf

Gutierrez, M. (2007): Adaptation Planning and Practices: Submissions by Parties and organizations. UNFCCC workshop on adaptation planning and practices. Rome, Italy, 10-12 September 2007. http://unfccc.int/adaptation/sbsta_agenda_item_adaptation/4036

Harmeling, S., J. Burck, C. Bals (2007): Adaptation to climate change in Africa and the European Union´s development cooperation. http://www.germanwatch.org/klima/euafr07.htm

Joint Liaison Group of the Rio Conventions (no date): Adaptation under the frameworks of the CBD, the UNCCD and the UNFCCC. http://www.cbd.int/doc/publications/cc-adaptation-en.pdf

Klein, R. (2007): Adaptation to Climate Change:
IPCC Findings and their Implications
for Climate and Development Policy. Presentation held at a workshop in Bonn, 20 November 2007. http://www.germanwatch.org/termine/2007-11-20/klein.pdf

Lenton, T. et al. (2008): Tipping elements in the Earth's climate system. Proceedings of the National Academy of Sciences (PNAS). 12 February 2008.

Levina, E. (2007): Adaptation to climate change: international agreements for local needs. OECD. http://www.oecd.org/dataoecd/15/11/39725521.pdf

Mueller, B., C. Hepburn (2006): IATAL – an international air travel adaptation levy. Oxford UK. Oxford Institute for Energy Studies. http://www.oxfordenergy.org/pdfs/EV36.pdf

Mueller, B. (2008): Bali 2007: On the road again! Impressions from the Thirteenth UN Climate Change Conference.

Mueller, B./Winkler. H. (2008): One Step Forward, Two Steps Back? The Governance of the World Bank Climate Investment Funds. Oxford Energy and Environment Comment February 2008.

Oxfam International (2007a): Adapting to climate change - What's needed in poor countries, and who should pay. Oxfam briefing paper 104. http://www.oxfam.org.uk/resources/policy/climate_change/bp104_climate_change.html

Oxfam International (2007b): Financing adaptation: why the UN's Bali Climate Conference must mandate the search for new funds. Briefing note. http://www.oxfam.org.uk/resources/policy/climate_change/downloads/bn_bali_adaptation.pdf?m=234&url=http://www.oxfam.org.uk/resources/policy/trade/downloads/bn_wdr2008.pdf

Oxfam International (2008): Climate wrongs and human rights: putting justice at the heart of adaptation. (forthcoming).

Schellnhuber, H.J./Jaeger, C. (2006): Avoiding dangerous climate change. In: WWF/BVI: Carbon Disclosure Project Report.

Tearfund (2007): Adaptation and the post-2012 framework. http://www.tearfund.org/webdocs/Website/Campaigning/Policy%20and%20research/Post%202012%20web.pdf

Tuvalu (2007): International blueprint for adaptation. Submission from Tuvalu. FCCC/CP/2007/MISC.2. http://unfccc.int/resource/docs/2007/cop13/eng/misc02.pdf

UNDP (2007): Human Development Report 2007/2008: Fighting climate change. Human solidarity in a divided world. http://hdr.undp.org/en/reports/global/hdr2007-2008/

UNFCCC (2006): Technologies for Adaptation to climate change. http://unfccc.int/resource/docs/publications/tech_for_adaptation_06.pdf

UNFCCC (2007a): Bali Action Plan. Decision 1/CP.13. http://unfccc.int/files/meetings/cop_13/application/pdf/cp_bali_action.pdf

UNFCCC (2007b): Investment and financial flows to address climate change. Background paper. http://unfccc.int/files/cooperation_and_support/financial_mechanism/application/pdf/background_paper.pdf

UNFCCC (2007c): Update on the implementation of the Nairobi Work Programme. http://unfccc.int/files/adaptation/adverse_effects_and_response_measures_art_48/application/pdf/final_brochure_nairobi_work_programme_web.pdf

UNFCCC (2008a): Views regarding the work programme of the Ad Hoc Working Group on Long-term Cooperative Action under the Convention. FCCC/AWGLCA/2008/MISC.1. http://unfccc.int/documentation/documents/advanced_search/items/3594.php?rec=j&priref=600004626&data=&title=&author=&keywords=&symbol=&meeting=&mo_from=&year_from=&mo_to=&year_to=&last_days=60&anf=0&sorted=date_sort&dirc=DESC&seite=#beg

UNFCCC (2008b): Views regarding the work programme of the Ad Hoc Working Group on Long-term Cooperative Action under the Convention. FCCC/AWGLCA/2008/MISC.1. Add.1. FCCC/AWGLCA/2008/MISC.1/Add.1

UNFCCC (2008c): UNFCCC: Latin American and Caribbean countries to play key role in global fight against climate change. Press release. 1 February 2008. http://unfccc.int/files/press/releases/application/pdf/20080201_santo_domingo_release_eng.pdf

UNFCCC (2008d): Scenario note on the first session of the AWG-LCA. Note by the Chair. http://unfccc.int/documentation/documents/advanced_search/items/3594.php?rec=j&priref=600004652#beg

World Bank (2006) 'Clean Energy and Development: Towards an Investment Framework', World Bank Environmentally and Socially Sustainable Development and Infrastructure Vice Presidencies, Washington DC: World Bank.

World Bank (2008): Consultation Note on the Climate Investment Funds. CIF/DM.1/2/Rev.1, 29 February 2008.

World Resources Institute (2008): Personal communication on 4 March 2008.

WWF (2007): Key Adaptation Negotiation Issues COP 13 and COP/MOP 3. Technical Briefing Note.

Germanwatch

We are an independent, non-profit and non-governmental North-South Initiative. Since 1991, we have been active on the German, European and international level concerning issues such as trade, environment and North-South relations. Complex problems require innovative solutions. Germanwatch prepares the ground for necessary policy changes in the North which preserve the interests of people in the South. On a regular basis, we present significant information to decision-makers and supporters. Most of the funding for Germanwatch comes from donations, membership fees and project grants.

Our central goals are:

- Effective and fair instruments as well as economic incentives for climate protection
- Ecologically and socially sound investments
- Compliance of multinational companies with social and ecological standards
- Fair world trade and fair chances for developing countries by cutting back dumping and subsidies in world trade.

You can also help to achieve these goals and become a member of Germanwatch or support us with your donation:

Bank fuer Sozialwirtschaft AG
BIC/Swift: BFSWDE31BER
IBAN: DE33 1002 0500 0003 212300

For further information, please contact one of our offices

Germanwatch - Berlin Office
Voßstraße 1
10117 Berlin, Germany
Ph.: +49 (0) 30 - 28 88 356-0
Fax: +49 (0) 30 - 28 88 356-1

Germanwatch - Bonn Office
Dr. Werner-Schuster-Haus
Kaiserstraße 201
53113 Bonn, Germany
Ph.: +49 (0) 228 - 60492-0
Fax: +49 (0) 228 - 60492-19

E-mail: info@germanwatch.org

or visit our website:
www.germanwatch.org