

Climate challenges to Africa: from Bali to Copenhagen

- I. Introduction
- II. Enhanced Action on Mitigation
- III. Enhanced Action on Adaptation
- IV. Enhanced Technology Development and Transfer
- V. Enhanced Action on the Provision of Financial Resources and Investment

Abbreviations and Acronyms

References

This document has been prepared by the APF Support Unit for discussion during Session 3 on Climate Change at the 12th Meeting of the Africa Partnership Forum in Rome on 10 June 2009.

Related papers prepared for previous meetings of the APF include: "Carbon Finance in Africa" (November 2008), "Climate Challenges for Africa: A Call for Action" (April 2008). They are available at www.africapartnershipforum.org.

I. Introduction

1. APF members have agreed during previous meetings that Africa, as the continent least responsible but most affected by climate change, has an important stake in the success of the negotiations for a post-2012 climate agreement. Against this background the purpose of this paper is to set out some of the key issues of particular relevance to Africa in the upcoming negotiations and to derive key policy messages for both Africa and its external partners.

2. The framework for the negotiations is set by the Bali Action Plan (BAP) agreed in December 2007 which set out a road map for reaching a new agreement on the post-2012 framework by 2009. This note covers a subset of issues of particular relevance to Africa out of the broader set of topics which will be discussed at the next UNFCCC Conference at Copenhagen (7-18 December). The preparations for the Copenhagen Conference are gathering pace with several additional UNFCCC meetings scheduled in Bonn (June and August/September). Further climate meetings are also being held in Kigali (May 20-21) for Finance Ministers, Nairobi (May 25-29) for Environment Ministers negotiators and other experts, and Addis Ababa (October). Climate change will also be discussed at the next African Union Summit in July.

Previous APF discussions and follow-up

3. Climate change issues were discussed at the 8th APF in Berlin (May 2007). At the 10th APF in Tokyo (April 2008), the APF reviewed papers on the impact of climate change and commissioned further work on promoting greater access to the world carbon finance and on an effective post-2012 climate framework. Access to carbon markets and new innovative financing for climate adaptation was briefly discussed at the 11th APF in Addis Ababa (November 2008). The papers prepared for Addis were also subsequently transmitted by NEPAD to the Africa Ministerial Conference on the Environment (AMCEN) which have led to further work on adaptation financing, jointly with NEPAD and UNECA, to serve as a technical input to a high-level expert meeting that took place ahead of the AMCEN meeting in late May 2009 in Nairobi.

From Bali: a shared vision...

4. In Bali, countries agreed on a *shared vision*, a comprehensive set of actions for long-term cooperative action based on the following key principles: (i) developed countries taking the lead on emission reductions; (ii) developing countries, and in particular emerging economies, agreeing to contribute to the global mitigation effort; (iii) special attention being paid to the least-developed countries which need to pursue their sustainable development and should not be subjected to mitigation commitments; and (iv) developed countries providing predictable additional financing, technical and capacity building support to help developing countries adapt to climate change and contribute to greenhouse gas emissions.

5. The Bali Action Plan also set out in some detail broad agreement on four pillars:

i. On *mitigation*:

- Emission reduction by all developed countries and efforts by developing countries along the principle of ‘nationally appropriate mitigation actions’;
- Policies and practices aiming at encouraging emission reductions from deforestation and forest degradation and the sustainable management of forests in developing countries; and
- Sector-specific actions for mitigation; and using market mechanisms as a means, among others, to promote mitigation actions;

- ii. On *adaptation*: international cooperation to support implementation of adaptation actions that include risk management and risk reduction strategies;
- iii. On *technology development and transfer*: scaling up of technology development and transfer to developing countries and cooperation on research and development; and
- iv. On the provision of *financial resources*:
 - Improved access to adequate, predictable and sustainable financial resources for developing countries, including innovative financing mechanisms; and
 - Support for capacity-building, in particular for the most vulnerable developing countries.

... To Copenhagen: key areas needing progress

6. Against the background of the shared vision agreed in Bali, there remain major areas on which agreement will be required for a successful new climate accord in Copenhagen. From the perspectives of low income countries, broad agreement on the following issues is most critical:

- i. On *mitigation*: more clarity on a long-term global goal for emission reductions. Clear ambitious emission reduction targets for industrialized countries are a critical prerequisite. Many of the more advanced developing countries indicated in Bali that they were willing to contribute to emission reductions according to the ‘nationally appropriate mitigation actions’ principle provided they get support from industrialized countries;
- ii. On *adaptation*: more attention to the central role of adaptation to climate change, with special attention to LDCs, and particularly Africa and Small Island Developing States (SIDS) that are particularly vulnerable to the adverse effects of climate change. While the discussions under the UNFCCC negotiations have focused on National Adaptation Programmes of Action (NAPAs), it is critical that more support be provided to help developing countries mainstream climate change in overall development management;
- iii. On *mobilizing financial resources*: to assist developing countries in their adaptation actions as well as additional mitigation actions. Significant public funding is essential but it is unlikely that it will be sufficient to meet needs. Carbon finance and other innovative mechanisms are viable options that need to be considered; and
- iv. On *managing these financial resources*: in addition to the challenge of mobilizing the needed resources, there remain important differences on how the resources should be managed. Broadly speaking, developing countries want more direct control over funds -- to be managed under the UNFCCC -- to ensure that funding addresses their sustainable development priorities. Developed countries are pushing for governance of funds through existing channels in part to avoid the proliferation of financial mechanisms and institutions.

Scope of paper

7. The above issues will be reviewed under the four pillars of the Bali Action Plan – mitigation, adaptation, technology transfer and financing. Where relevant, the report will also briefly cover selected technical and policy issues of particular relevance to low income countries, and most particularly: (i) the issue of Reducing Emissions from Deforestation and Forest Degradation (REDD); and (ii) ways of making the carbon market, and more particularly the Clean Development Mechanism (CDM) more accessible to Africa.

Recommendations

8. On *mitigation*

- ◆ Call for urgent and strong action to reduce global emissions by developed countries in line with the reduction range of 25-40% by 2020, together with incentives for key developing countries to cut emissions.
- ◆ Make funding and policy support for reduced emissions from deforestation and forest degradation in developing countries (including through South-South cooperation) an integral part of the new climate agreement, given its vital role in global emission reductions.
- ◆ Strengthen the capabilities of and financing to African countries to facilitate full and effective implementation of the IPCC guidelines for the REDD.

9. On *adaptation*

- ◆ Provide urgent support to help meet immediate adaptation priorities in vulnerable countries. Funding the NAPAs is a clear starting point to be supplemented by support to help African countries mainstream adaptation in national development strategies.
- ◆ Support country/regional efforts to improve climate data and information and to develop the capacity of African countries to monitor climate change and to enhance knowledge-sharing.
- ◆ Help vulnerable countries to integrate climate change adaptation at national, sectoral and project levels through climate proofing of development projects.

10. On *technology development and transfer*

- ◆ Support efforts to develop and share technologies for adaptation.
- ◆ Support the effective diffusion and transfer of technology in areas of particular relevance to Africa such as REDD, land uses, and small-scale renewable energy (i.e. small hydropower and rural electrification).
- ◆ Support the development of a suitable intellectual property rights (IPR) regime for their transfer and deployment in developing countries.
- ◆ Support Africa's efforts to promote and facilitate the gathering and sharing of climate information, indigenous technology and other South-South collaboration on adaptation including through new African initiatives such as ClimDev-Africa and the Africa Centre for Climate Analysis.

11. On the provision of *financial resources*

- ◆ On accessing funding, external partners to be more pro-active in helping to promote Africa's access to information and procedures and African countries to be more responsive to the requirements for access to existing climate funds.
- ◆ On making the carbon market more relevant to Africa
 - Encourage the development of additional simplified methodologies for sectors with high potential in Africa.
 - Support a broader programme rewarding all relevant emission reductions from the agriculture, forestry and land use sectors (AFOLU) in the post-2012 period.
- ◆ Ensure that future climate financing provides new, additional, predictable and sustainable resources including through the new climate change funding initiatives currently under discussion.
- ◆ Ensure that future funding responds to the long-term sustainable development priorities of Africa, and that transaction costs are kept to a minimum.

12. Issues for discussion

- ♦ Does the Forum agree that these are the key issues where any agreement at Copenhagen will need to accommodate Africa's interests?
- ♦ Whether and if so how messages on these issues might be sent for instance to the G8 Summit (or the negotiating process?)
- ♦ Whether Secretariats should be asked to undertake further work, in consultation with AMCEN, to help provide technical background etc.
- ♦ Whether it should review this again at its next meeting in the autumn, in the run-up to Copenhagen?

II. Enhanced Action on Mitigation

2.1 *Background*

13. According to the 2007 Report of the Intergovernmental Panel on Climate Change (IPCC), the international community should aim to limit temperature increases to 2°C on the grounds that anything higher would be dangerous. This would require stabilising greenhouse gas concentrations in the atmosphere at 450 ppm¹ of CO₂ equivalent (CO₂e) by the end of this century. To achieve this objective, industrialized countries as a group will need to reduce emissions in the range of 25-40% below 1990 levels by 2020 and in the range of 80-95% by 2050. But according to the latest climate information², greenhouse gas (GHG) concentrations have already reached 430 ppm and are rising by about 2.5 ppm a year, partly on account of larger emissions in the emerging economies. According to Stern, the chance of keeping emission concentrations below 450 ppm has probably been missed meaning a significantly higher probability of climate warming in excess of 2°C.

14. Setting ambitious mitigation actions therefore become even more urgent. Based on their historic responsibilities, industrialized countries will need to take the lead in emission reductions. But this will not be sufficient; mitigation efforts will also be needed from developing countries. South Korea, Mexico, and South Africa among others have offered to apply mitigation actions that are 'substantial deviations from baseline'. There was however, a general agreement that the least developed countries (LDCs) and small island developing states (SIDS) should not be asked to make commitments for mitigation. Instead, they should be assisted in achieving sustainable development including, in the case of Africa, greater access to modern energy.

15. Achieving political clarity on the above issues is at the core of a successful outcome in Copenhagen. But solutions will need to be developed and negotiated in the next few months to address complex political and technical challenges among which: (i) how to ensure comparability of efforts within the group of developed countries including between the European Union and other industrial countries; (ii) how to set voluntary but ambitious commitments by developing countries; and (iii) how to recognize mitigation actions by developing countries and link these actions with technology, financing and capacity building support by developed countries that are 'measurable, reportable and verifiable'.³ In addition to the above issues, negotiators will also have to review and discuss a range of technical considerations for

¹ Parts per million in atmospheric concentrations.

² Mentioned in Nicholas Stern, *The Global Deal - Climate Change and the Creation of a New Era of Progress and Prosperity* (2009).

³ The 'measurable, reportable and verifiable' or MRV principle was key to achieving the agreement in Bali.

mitigation such as using a sectoral approach on mitigation, reducing emissions from deforestation and forest degradation and from land-use changes more broadly.

16. The objective of this section is not to present a comprehensive picture of all areas covered under the negotiations on climate mitigation, which far exceeds the scope of this paper. For instance, sectoral approaches to mitigation are not covered in part because of its limited relevance to low-income countries but also because a full coverage of sectoral approaches, given strong positions for and against the different group of countries, may detract attention from what is more directly relevant to Africa. Also, the Clean Development Mechanism (CDM) which is at the base of the carbon offset system and was covered more extensively in the papers prepared for the 11th APF meeting in Addis Ababa will be dealt briefly under the financing section. Instead, this section reviews the principal issues related to climate mitigation negotiations and more especially those of particular relevance to Africa and other low income countries. The report will cover separately mitigation by developed and developing countries. Furthermore for developing countries, the discussion will distinguish issues that are more directly relevant to the more advanced developing countries from those that are more relevant to Africa and other low income countries.

2.2 Mitigation by developed countries

17. Given the critical role of leadership by developed countries on emission reductions, quantified commitments made so far by industrial countries have been modest and are significantly below what is being called for by the scientific community to avoid catastrophic climate change. The European Union member states, as a group, are the only countries which have made quantified commitments to reduce GHG emissions by 20% in 2020 compared with their 1990 levels with the possibility of an additional 10% reduction if other developed countries adopt larger reduction targets.

18. Three other countries including the US, Japan and Australia currently have draft bills under discussion in their respective parliaments. In Japan, the government has proposed cuts of between 7-15% by 2020 compared to 1990 levels. Similarly, in Australia, the government has submitted a bill proposing to cut carbon emissions of 4-15% below 2000 levels by 2020. In the US, the ‘American Clean Energy and Security Act of 2009’ proposes to gradually reduce emissions to 20% below the 2005 level by 2020, and 83% below the 2005 level by 2050. In addition, the Act proposes to establish an emission cap and to allow for the use of emission offsets as a way to reduce the costs of achieving the emission reduction goals. On a related issue, the US Environmental Protection Agency (EPA) has recently declared carbon dioxide a pollutant dangerous to human health thus opening the way for EPA to regulate CO₂ emissions in the future.

2.3 Mitigation by developing countries

19. Given the general agreement that LICs and SIDS should not be subject to mitigation commitments, most of the discussions on developing countries have focused on ways to encourage the engagement of the more advanced developing countries in mitigation efforts. For low-income countries including most of Africa, the discussions are more narrowly focused on various ways to help developing countries more fully exploit the potential of mitigation contributions from forests and land use. In addition, there remains the challenge of finding appropriate indicators and methods for differentiating those developing countries that will need to make commitments on mitigation from others such as the LICs and SIDS.

20. For *the more advanced developing countries* with significant mitigation potential the discussions are focusing mainly on:

- (i) Agreeing on the coverage of ‘nationally appropriate mitigation actions’ or NAMAs. Discussions on NAMAs have raised the importance for developing countries to have accurate, comprehensive and reliable greenhouse gas (GHG) inventory data and to report the information on a regular basis;
- (ii) Establishing a registry for NAMAs with the aim to recognize mitigation actions by developing countries; and
- (iii) Linking mitigation actions with technology, financing and capacity building support by developed countries and ensuring that both mitigation and support actions are measured, reported and verified.

21. For *low income countries*, the discussions on mitigation have taken a more sectoral approach focusing primarily on the importance of mitigation actions related to ‘*reduce emissions from deforestation and forest degradation (REDD⁴)*’ and to a lesser extent, to land use and land-use change including the agricultural sector. Since deforestation accounts for roughly 17 to 20% of total emissions, REDD is emerging as having a big potential for mitigation and is expected to feature prominently in Copenhagen. While there is broad agreement that REDD-plus⁵ could form an important part of the mitigation efforts of those developing countries with significant forest resources, the acceptance and implementation of REDD-plus activities will require resolution of several challenges.

22. Some of these challenges are technical in nature such as:

- ♦ The need to establish a reference level (baseline) of forest carbon stocks against which future reduction in emissions can be calculated and more generally, national forest inventories for which significant capacity building support to LDCs will be needed; and
- ♦ Addressing problems caused by leakages -- for example, where curbing deforestation in one area could lead greater deforestation elsewhere -- and non-permanence of emission reductions from REDD-plus activities given for instance, the vulnerability of forests to fire.

23. There are also broader issues such as:

- ♦ The potential that REDD-plus activities may have severe implications for indigenous peoples and local communities whose livelihoods depend on forests;
- ♦ Related to the above, uncertainties about land ownership and tenure rights which is a common problem to many developing countries;
- ♦ The framework for delivering financial resources for REDD-plus activities where two approaches have dominated the discussions: a market-based mechanism allowing public and private finance from developed countries to credit part of the emission reduction obligations through REDD-plus activities and a public fund-based mechanism financed by ODA for instance.

24. In the case of Africa, the forestry and agriculture sectors together account for 75% of emissions from the region. Thus besides forestry which was discussed above, *agriculture* also needs to be part of efforts to meet international and national climate change objectives. But agriculture has remained

⁴ Forests play a critical role in climate change by sequestering or storing, large quantities of carbon (by absorbing CO₂) as they grow. Stopping or slowing the rate at which such forests are cleared are degraded is essential to maintaining their carbon-storing capacity and the ecological “services” they provide, including biodiversity and watershed protection.

⁵ Under the Bali Action Plan, REDD-plus expands on the concept of deforestation and degradation of forests to cover a broader range of activities and approaches including the sustainable management of forests and other measures aimed at enhancing forest carbon stocks.

somewhat marginal to climate change negotiations because it is perceived to be a difficult sector for three main reasons: the sheer number of areas and farmers involved, the multitude of farming systems, and sharing with forestry, uncertainties related to permanence, leakages and additionality⁶. Further work on mitigation from agriculture through pilot activities, capacity building, technology transfer and institutional mechanisms will be needed.

Box 2.1: Preserving and protecting Congo Basin forest ecosystems

The Congo Basin is one of Africa's most important natural resources The forest ecosystems of this basin are immense, covering an area twice the size of France (over 200 million hectares). They constitute the second largest area of contiguous moist tropical forest left in the world and represent approximately one-fifth of the world's remaining closed canopy tropical forest. This vast area hosts a wealth of biodiversity, including over 10,000 species of plants, 1,000 species of birds, and 400 species of mammals. It is also home to more than 50 million people living in ten countries⁷, many of whom depend on the forest for their food, shelter and livelihoods.

It is also of global significance As the second largest tropical forested area on the planet, the Congo Basin rainforest represents a carbon store of global importance. Curbing deforestation in the Congo Basin may provide a highly cost-effective way of reducing greenhouse gases on a global scale. The rainforest is coming under pressure from uncontrolled logging, slash and burn agriculture practices, population growth, commercial poaching and expanding oil and mining industries. Forests are currently disappearing at the rate of approximately 930,000 hectares per year⁸. If action is not taken now, it is estimated that by 2040 over two-thirds of Congo Basin forests will have been destroyed – with devastating consequences on global CO₂ emission levels -- and countless species

African governments have undertaken important commitments to preserve and sustainably manage Congo Basin forests. Countries in the region have worked together over the past two decades to forge a common approach to conserving the Congo Basin's rich forest ecosystem while concurrently ensuring sustainable livelihoods for inhabitants. This collaboration culminated in 1999 with the ground-breaking Yaoundé Declaration, which sets forth firm political commitments, including i) creation of new protected forest areas and trans-border conservation initiatives; ii) plans to combat illegal logging and illegal poaching of wildlife; and iii) broadened application of sustainable forest management strategies. The Yaoundé Declaration in turn gave birth three years later to the Conference of Ministers of Forestry of Central Africa¹ (COMIFAC) – charged with coordinating and supervising implementation of the Declaration through a regional Plan of Convergence which covers ten strategic areas.

Supportive action by the international community. These regional commitments and institutional arrangements are now complemented by a number of international initiatives geared to protecting and sustainably managing Congo Basin rainforests.

- The **Congo Basin Forest Partnership (CBFP)**, launched in 2002, is an informal association that brings together approximately 48 governmental, nongovernmental, and international organizations. The CBFP is a non-binding network based on a voluntary agreement to raise the effectiveness of programs and initiatives through improved communication and collaboration. A prime example of the partnership's collaboration is the work undertaken to research and publish "The Congo Basin Forests 2006". This is the first comprehensive baseline assessment of i) the nature and condition of the region's forest ecosystems and ii) the threats and the impacts, both positive and negative, of human activities. CBFP works in close partnership with COMIFAC to implement the Convergence Plan and the Yaoundé Declaration.
- In October 2007 the World Bank established the **Forest Carbon Partnership Facility (FCPF)** as a way to kick-start *Reducing Emissions from Deforestation and Degradation* (REDD). The fund is initially providing US\$ 300 million to finance emissions reductions through forest conservation initiatives. Six countries in Africa (the Democratic Republic of Congo, Gabon, Ghana, Kenya, Liberia and Madagascar) receive grant support to build their capacity for REDD, including establishing emissions reference levels, adopting strategies to reduce emissions from deforestation and degradation, and designing monitoring systems.
- The **Congo Basin Forest Fund (CBFF)** was launched in June 2008 to help the people and institutions of the Congo Basin to manage their forests, develop livelihoods that are consistent with forest conservation and reduce GHG emissions. It will provide funding and support efforts to ensure governments, civil society, NGOs and the private sector work together. The CBFF has been initially financed by a grant of £100 million from the British and Norwegian Governments.

Text compiled from numerous sources, including AfDB, CBFP, CBFF, World Bank, and USAID websites.

⁶ Additionality refers to the evidence that any reduction in emissions from a project is genuinely additional to reductions that would occur if that project were not in place.

⁷ Burundi, Cameroon, Central Africa Republic, Chad, Congo, Democratic Republic of Congo, Equatorial Guinea, Gabon, Sao Tome and Principe, and Rwanda.

⁸ FAO estimate

2.4 Recommendations

- ♦ Call for urgent and strong action to reduce global emissions by developed countries in line with the reduction range of 25-40% by 2020, together with incentives for key developing countries to cut emissions.
- ♦ Make funding and policy support for reduced emission reductions from deforestation and forest degradation in developing countries (including through South-South cooperation) an integral part of the new climate agreement, given its vital role in global emission reductions.
- ♦ Strengthen the capabilities of and financing to African countries to facilitate full and effective implementation of the IPCC guidelines for the REDD.

III. Enhanced Action on Adaptation

3.1 Introduction

25. Of the four pillars of the Bali Action Plan, adaptation is the one that matters the most to low-income countries. Yet, in the discussions for the post-2012 climate agreement, adaptation has received much less attention than mitigation. As a result, compared to discussions on mitigation which are more structured with coherent agendas for developed and developing countries, the discussions on adaptation consist of a variety of views that leave important gaps on how adaptation will move from ideas to actions. In addition, there are divergent views on institutional arrangements for adaptation. Whereas the UNFCCC has clear leadership on issues related to mitigation efforts, the role of UNFCCC in adaptation is less clear given the roles played by other bilateral and multilateral institutions.

26. In the absence of a clear negotiating framework on adaptation, this section, compared to the previous one which more closely follows discussions in the context of the UNFCCC, will be organized differently. First, by using the disaster risk reduction (DRR) agenda as an illustration, it highlights the changes that are required for a more effective adaptation strategy. Then it briefly reviews the current status of adaptation in the context of the climate negotiations, highlighting areas of convergence and those issues characterized by a diversity of opinions. Next, it discusses the experience with national adaptation programs of action (NAPAs). It then reviews the key challenges of integrating adaptation at the national level and makes suggestions on key recommendations concerning the adaptation.

3.2 Adaptation as reducing vulnerability to current and future climate change

27. While the need to adapt to a changing environment is not new, rapidly changing climate conditions pose new challenges and relying on past knowledge may no longer be sufficient. Adapting to the consequences of climate change therefore requires anticipation, more detailed climate information at the local level and a different organization. It is in this context that the shift from reactive disaster management to preventive, multisectoral disaster risk reduction (DRR) initiatives that can be integrated at the national level (Table 3.1) provides a useful perspective on adaptation to climate change. The DRR approach is being given greater prominence by those associated with the adaptation to climate change with the important difference that requirements for climate adaptation are broader than those for DRR since it would include, for instance, such actions as adapting the tourism sector in coastal areas. The Bali Action Plan explicitly recognizes the importance of a DRR-like approach to climate adaptation.

Table 3.1. From disaster management to disaster risk reduction

From:	To:
Focus on hazards	Focus on vulnerability
Reactive	Pro-active
Science- or expert-driven	Partnerships with a wide range of stakeholders including those at risk
Response management	Risk management
Symptoms	Causes
Local focus	Broader context

Source: Salter J. 1998. Risk management in the emergency management context.

3.3 Current status of adaptation in climate negotiations

28. Discussions in the context of the UNFCCC have shown convergence on the importance of observation and scientific information, and knowledge-sharing relying on both North-South and South-South and thus the role of regional centres. But the discussions have also shown varied views on several issues related to adaptation. For instance on the issue of providing incentives for adaptation, developing countries have approached the issue from ‘the polluter pays’ compensation principle in demanding finance, technology and capacity-building from developed countries. This approach has had limited success. As shown in Box 3.1(following page), resources currently made available under the UNFCCC framework for climate adaptation are very limited.

29. In addition to finance and capacity constraints, non-existent or inadequate climate data⁹ and lack of technical capacity constitute major handicaps for designing and implementing adaptation strategies in Africa. ClimDev-Africa and the new Africa Climate Policy Centre (Box 3.2) represent regional initiatives to address constraints listed above. Discussions within the context of climate negotiations also highlighted other priorities from the perspectives of developing countries. Most noteworthy is how to integrate stand-alone adaptation projects such as those covered under the NAPAs into nation-wide adaptation strategies. This issue will be treated in greater detail in the next section.

⁹ Africa has on average one meteorological station for 25,000 km² compared to 716 km² for the Netherlands.

Box 3.1. Support for adaptation in the context of international negotiations on climate change

Adaptation is a relatively recent concern within the context of international negotiations on climate change. While adaptation is mentioned in both the UNFCCC and the Kyoto Protocol, the implementation of adaptation has come into sharper focus since 2001 at the seventh Conference of the Parties in Marrakech which established three funds dealing with adaptation:

- *The Least Developed Countries Fund* was created to help the least developed countries (LDCs) prepare their National Adaptation Programmes of Action (NAPAs), which establish and prioritise adaptation actions through specific projects. The fund also supports institutional capacity building and other activities.
- *The Special Climate Change Fund* finances activities in both mitigation and adaptation in all developing countries. These activities can be either sector specific or aimed more broadly at adaptation, technology transfer and economic diversification.
- *The Adaptation Fund* was set up under the Kyoto Protocol to provide funding for adaptation purposes to parties to the Protocol. Unlike the other two funds which are financed by voluntary contributions, the Adaptation Fund gets its resources from a 2% levy on the proceeds of certified emissions reductions from projects under the Clean Development Mechanism (CDM).

These funds are part of a more complex architecture of international funding sources for adaptation that also includes the Strategic Priority on Adaptation of the Global Environmental Facility and the various World Bank Group climate funds as well as bilateral initiatives.

Regarding capacity support, successive rounds of negotiations have sought to develop a more comprehensive approach. This includes the '*Nairobi Work Programme on Impacts, Vulnerability and Adaptation to Climate Change*' which serves as a platform for the dissemination of scientific and technical knowledge. During its first phase (2005-2010), the Nairobi Work Programme put emphasis on efforts to improve the understanding and assessment of impacts, vulnerability and adaptation to climate change and make informed decisions on practical adaptation actions with a focus on: methods and tools; data and observations; climate modeling; climate-related risks and extreme events; socio-economic information; adaptation planning and practices; research; technologies for adaptation; and economic diversification as an instrument for adaptation. For the remaining two years, the emphasis of the Nairobi Programme will be on economic diversification and adaptation planning and practices, on education, training and public awareness, and the promotion of regional centres.

Source: Adapted from the OECD/DAC "*Policy Guidance on Integrating Climate Change Adaptation into Development Cooperation*" (forthcoming).

Box 3.2: Climate for Development in Africa (ClimDev-Africa) & African Climate Policy Centre (ACPC)

ClimDev-Africa is a 10-year regional programme initiated jointly by the African Union Commission, the UN Economic Commission for Africa and the African Development Bank in collaboration with the Secretariat of the Global Climate Observing System (GCOS) with the aim to:

- Enhancing the provision of essential data for climate services, policy and best adaptation practices;
- Supporting the integration of climate change into economic development and planning processes;
- Contributing to strengthening the human and institutional capacities of African countries and RECs related to climate change policies and programmes; and
- Supporting policy dialogue and policymaking processes at the regional, sub-regional, national and local level through knowledge-sharing.

Source: UNECA (2009)

3.4 An analysis of National Adaptation Programs of Action (NAPAs)

30. Under an initiative launched by the UNFCCC in 2001, least developed countries were encouraged to develop NAPAs to identify priority adaptation activities that respond to their urgent and immediate needs. Using existing information and involving local communities, NAPAs help to assess vulnerability to current climate variability, identify key adaptation measures and set priorities. Countries then become eligible to apply for funding under the LDC Fund.

31. Thirty nine least-developed countries including 27 from Africa have developed NAPAs. As of today, only three such projects are under implementation. On the basis of some 450 projects submitted by 39 LDCs, the most popular sectors of adaptation are in decreasing order: food security (20% of total projects); forest and other terrestrial ecosystems (18%); water resources of all types (14%); energy (12%) and coastal zones (10%). Only 7% of the NAPA projects are multi-sectoral (for instance combining food security, water resources and infrastructure). That only 1% of the projects address national adaptation policy integration (Bangladesh, Republic of Kiribati, Madagascar, and Rwanda) reflects the very piecemeal approach to adaptation.

3.5 Challenges to integrating adaptation at the national level

32. While it is increasingly recognized that climate change is no longer simply an environment problem, the experiences of most low-income countries as described in the previous section highlights the importance of integrating adaptation in national development strategies. Getting adaptation right requires: (i) improved quality and availability of climate information; (ii) the capacity for climate change and impacts modeling; and (iii) that climate change adaptation, which is still not viewed as a development issue, should receive higher priority in national development strategies. There remains the mismatch in terms of time-scales over which many climate change impacts might manifest themselves (10-20 years) and the much shorter time horizons of development strategies including poverty reduction strategies. In addition, promoting a government-wide approach to climate adaptation will require reinforcing responsibility for climate coordination, including elevating this role in the government.

33. Similar institutional reforms must take place within donor policies and processes. Adaptation is still a low priority within donor agencies, the project-based approach still dominates and most often, climate considerations are compartmentalized within small teams. Project-based implementation is also likely to affect the sustainability of funding and hinder effective adaptation planning and implementation. Aligning finances to national priorities and systems using the Paris Agenda harmonization framework constitutes another challenge. Bangladesh's example of a multi-donor trust fund to finance activities under the country-led Climate Change Strategy show promise of ensuring national coordination and ownership of the adaptation agenda.

3.6 Recommendations

- ♦ Provide urgent support to help meet immediate adaptation priorities in vulnerable countries. Funding the NAPAs is a clear starting point to be supplemented by support to help African countries mainstream adaptation in national development strategies.
- ♦ Support country/regional efforts to improve climate data and information and to develop the capacity of African countries to monitor climate change and to enhance knowledge-sharing.
- ♦ Help vulnerable countries to integrate climate change adaptation at national, sectoral and project levels through climate proofing of development projects.

IV. Enhanced Technology Development and Transfer

4.1 Introduction

34. The Bali Action Plan calls for enhanced action on technology development and transfer to support action on mitigation and adaptation and for enhanced action on the provision of financial resources and investment to support action on mitigation and adaptation and technology cooperation. The IPCC¹⁰ identifies three major dimensions necessary to ensure the effectiveness of technology transfer: capacity building, enabling environments, and mechanisms for technology transfer. In the context of the climate negotiations, the UNFCCC¹¹ defined five key elements for effective action to transfer technology:

- (i) country-driven technology needs assessments;
- (ii) technology information;
- (iii) enabling environments for private and public sector investment in technology transfer;
- (iv) capacity building and particularly capabilities and institutions in developing country Parties to enable them to assess, adapt, manage and develop environmentally sound technologies (EST);
- (v) mechanisms to enhance coordination among stakeholders and to facilitate the development of projects and programs to support these ends.

35. This section is structured as follows:

- 1) description of the current setup for delivery of technology transfer in the UNFCCC framework;
- 2) review of experiences in providing support in the area of technology transfer in climate that shows a major difference between mitigation - where technology transfer is more relevant and adaptation - where diffusion of management practices plays a more important role;
- 3) a brief discussion of problems surrounding intellectual property rights;
- 4) a review of various options on institutional arrangements and governance for technology; and
- 5) suggested priorities for Africa.

4.2 Current setup for delivery of and access to technology

36. In the current setup under the UNFCCC, the Global Environment Facility (GEF), as an operational entity of the financial mechanism under the Convention, is mandated to provide financial support for the technology transfer framework through both the climate change focal area and the Special Climate Change Fund (SCCF). In addition, the Conference of Parties has established the Expert Group on Technology Transfer (EGTT) under the Subsidiary Body for Scientific and Technological Advice (SBSTA) with the “objectives of advancing the development and transfer of technology activities under the Convention”. EGTT activities have included analytical work, particularly in terms of innovative financing, including a workshop, technical paper, and project financing guidebook.

37. Support by the GEF for capacity-building of developing countries in the area of technology transfer includes: (a) implementation of the results of technology needs assessments (TNAs); (b) technology information; (c) facilitating national/regional access to the information provided by international centres and networks, and for working with those centres for the dissemination and transfer of environmentally sound technologies (ESTs) and know-how; and (d) enabling environments.

¹⁰ Special Report of the Intergovernmental Panel on Climate Change (IPCC) Working Group III, “Methodological and Technical Issues in Technology Transfer”.

¹¹ See Annex to Decision 4/CP.7 (FCCC/CP/2001/13/Add.1.).

38. The Convention has also identified the following priority areas under *mitigation*: (a) energy efficiency, energy savings, renewable energy and less-greenhouse-gas emitting technologies; (b) energy efficiency and savings in the transport and industry sectors; (d) afforestation, reforestation and use of marginal land; (e) solid and liquid waste management for the recovery of methane. Under *adaptation*, the guidance was less clear, with the sole mention of climate-friendly agricultural technologies and practices, including traditional agricultural methods.

4.3 *Review of experiences in technology transfer for Africa*

39. As part of the GEF-4 replenishment process, the operational strategy for mitigation in the GEF was revised to focus primarily on six strategic programs in the mitigation area:

- 1) energy efficiency in the building sector;
- 2) energy efficiency in the industrial sector;
- 3) market-based approaches for renewable energy;
- 4) sustainable energy production from biomass;
- 5) sustainable innovative systems for urban transport; and
- 6) management of land use, land-use changes and forestry (LULUCF) as a means to protect carbon stocks and reduce GHG emissions.

40. A recent GEF¹² report on investment for technology transfer highlights the large differences between countries and regions, with some developing countries at the forefront of innovation and technology diffusion in a particular sector. This points to the heterogeneity among “developing countries” in technology transfer and diffusion, and therefore to the necessity of different responses to facilitate technology transfer. Another important aspect is the importance of domestic investment and of activities that can facilitate private sector investment in leveraging resources for technology transfer.

41. On *mitigation*, the review shows that a number of African countries have benefitted from GEF-coordinated transfer of ESTs, notably in the following areas:

- (i) energy efficiency such as lighting, light-emitting diodes, energy-efficient building design, heat recovery for power generation from industrial processes;
- (ii) renewable energy such as small solar rural electrification, solar water heating, wind turbines, geothermal and small hydropower projects;
- (iii) transport technology such as bus-rapid transit systems.

42. Assessing technology transfer for *adaptation* to climate change has been more problematic and is due to the nature of adaptation itself: climate change adaptation activities are difficult to separate from other development activities, as adaptation is inextricably linked to development. Thus while “technology transfer” plays an important role in mitigation, in adaptation it is “technology, techniques and practices” supported by “information and skills” that would cover the range of required measures, for instance:

- ♦ in agriculture, many forms of adaptation will be concerned with transfer and diffusion of management practices and related knowledge, traditionally provided through agricultural extension services;
- ♦ in health, a significant part of adaptive measures will consist of the capacity to predict and prepare for the likely expansion of vector diseases such as malaria;
- ♦ in infrastructure, the issue concerns not so much specific technologies, but rather techniques and good practices which will have to be shared, including with other countries that have faced

¹² UNFCCC (2008), Report of the Global Environment Facility on a strategic programme to scale up the level of investment for technology transfer, Note by secretariat FCCC/SBI/2008/5

related issues. It is a domain where transfer of technologies and techniques, such as building codes, is likely to be promoted by the investors themselves, encouraged and pushed by the insurance industry.

4.4 *Issue of intellectual property rights*

43. Intellectual property rights (IPRs) have attracted significant attention in the climate talks. While many developed countries stressed the importance of IPRs in encouraging innovation in technology development and deployment, and noted that the cost related to IPRs is a small fraction of the overall cost of technologies, developing countries tend to see IPRs as a barrier to technology transfer. Clearly, there is a need to find a balance between rewarding innovators and greatly scaling up technology diffusion and transfer. This has led to a number of propositions by developing countries such as:

- (i) funding mechanisms to develop and deploy technology;
- (ii) generating funding to “buy IPRs” including, for instance, developed country governments compensating property rights owners for their transfer and deployment in developing countries; and
- (iii) modifying national policies on the use of IPRs for publicly funded research and development, and learning from existing approaches undertaken in the public health sector. Successful approaches from other regimes involving compulsory licensing for specific technologies, such as in the health sector, have been suggested for application in the climate change context. Other suggestions are: incentives (tax exemption, subsidies, etc.) for technology innovators to apply differential pricing; patent pools to disseminate technologies to developing countries at low cost; and licensing publicly funded technologies.

4.5 *Institutional arrangements and governance for technology*

44. The climate talks reveal broad agreement on the limitations of the current technology framework, although the perspectives tend to differ between developing and developed countries. From the perspectives of developing countries, barriers to technology transfer are broader and include technical, human skills, financial and social aspects. More specifically, inadequate technology information -- on cost, performance and suitability; limited capacity for operations and maintenance; limited skills to manage and adapt technologies; lack of an enabling environment including the issue of intellectual property rights discussed above; investment risks; lack of financing or access to credit; high cost of technology and insufficient investment. This has led to suggestions for more capacity-building and training, information exchange and knowledge-sharing programmes including regional technology excellence centres to promote technology development, deployment and transfer, stimulate capacity building, improve access to information and establish an appropriate international cooperation environment. Developed countries on the other hand, stress the importance of the role of the private sector and research institutions, and on enhancing enabling environments for technology transfer.

45. In other words, technology may only be effective when it works as a whole package which includes hardware (devices, equipment, process and complementary technological system etc); software (awareness, knowledge, information, know-how, intellectual property rights, designs etc); human resources; financial resources to make development, diffusion and transfer happen and an enabling environment (regulatory framework by both developed and developing countries, appropriate institutional arrangements and infrastructure).

46. A more fundamental issue concerns the institutional framework for technology with two approaches:

- (i) the continuation of existing arrangements and mechanisms enhancing financial and technology cooperation, without creating any new institutions; or
- (ii) establishing a new technology mechanism as an umbrella entity to guide overall technology development and transfer activities under the Convention. Different options are under discussion including the creation of a specialized technology mechanism and dedicated multilateral funds for technology development and transfer to support the delivery of technology and finance to enhance actions on mitigation and adaptation in developing countries.

4.6 Recommendations

- ◆ Support efforts to develop and share technologies for adaptation;
- ◆ Support the effective diffusion and transfer of technology in areas of particular relevance to Africa such as REDD, land uses, and small-scale renewable energy (i.e. small hydropower and rural electrification);
- ◆ Support the development of a suitable IPR regime for their transfer and deployment in developing countries; and
- ◆ Support Africa's efforts to promote and facilitate the gathering and sharing of climate information, of indigenous technology including other South-South collaboration on adaptation including through ClimDev-Africa and the Africa Centre for Climate Analysis.

V. Enhanced Action on the Provision of Financial Resources and Investment

5.1 Introduction

47. Current estimates of adaptation cost range anywhere between the World Bank's US\$40 billion in 2020 to the UNDP's 2007 estimate of US\$86 billion per year in 2015. Compared to these large requirements, total commitments to funds that have been set up with voluntary contributions by developed countries under the UNFCCC Convention¹³ to assist developing countries amount to about US\$ 300 million -- of which only half have been disbursed. In addition to the above, modest resources have been made available from one of an array of financing instruments that are designed to achieve multiple climate-related objectives. With the exception of the Adaptation Fund¹⁴, which was established under the Kyoto Protocol with funding derived primarily from the proceeds of a two percent levy on the proceeds from Clean Development Mechanism (CDM) projects, all the other financing initiatives are funded by public sector pledges.

48. The large shortfall of funding for adaptation in developing countries has made financing an important issue in the context of climate negotiations. It also highlights the fact that voluntary contributions and official and concessional resources that cover most of the existing financing initiatives will only be able to cover a small share of the needs by developing countries to address climate challenges. The need for new sources of funding was made explicit in the Bali Action Plan. Thus, besides underlining the need to provide developing countries with adequate, new and additional financial resources from official and concessional sources, the BAP also emphasized 'innovative means of funding' and the 'mobilization of public- and private-sector funding and investment, including facilitation of carbon-friendly investment choices'.

¹³ Thus the term Convention funds.

¹⁴ The Adaptation Fund is expected to become operational later in 2009.

49. Besides the large funding shortfall, there are equally significant challenges concerning the structure, governance and allocation of the funds. Most common among concerns by developing countries are the disproportionately larger voice of developed countries in decisions on allocations and disbursements, complex and lengthy procedures that render access to funding difficult, and in certain cases, the lack of appropriateness of some of these instruments to low-income countries where the economies are predominantly based on agriculture, forest resources and natural resources. This has led to developing countries expressing a strong preference for having all financing institutional arrangements under the control of the UNFCCC's Conference of the Parties (COP), an option which may not be feasible at least in the short- to medium-term given that, at present, there are significantly larger climate-related resources available outside of the UNFCCC framework than within it.

50. In view of the complex situation regarding climate funding, this section will have two parts. Paragraphs 51-57 cover the present context, including: i) a review of existing climate change funding mechanisms for developing countries including the market-based CDM and related carbon finance voluntary market; and ii) how to improve access to existing financing. Paragraphs 58-62 discuss options for the future and include: i) considerations on a future financial framework that reflects Africa's priorities; and ii) a description of the main new financing proposals.

PRESENT CONTEXT

5.2 Existing financing mechanisms

51. There has been a recent proliferation of new climate-related funding initiatives covering both adaptation and mitigation which can be grouped into two categories depending on the sources of funding: 1) initiatives funded by international public contributions - the majority of existing mechanisms and 2) those that rely on market-based carbon finance including the Adaptation Fund.

52. Table 5.1 provides a summary of all existing climate-related funds, grouped into funds established under the Convention or outside of it. It does not, however, cover initiatives such as the Clean Energy Investment Frameworks of the World Bank and the AfDB, which are frameworks to attract financing including private sector investments rather than funding *per se*. Most of the funds in the table are global, with no pre-allocations by region. Also, with the exception of a few financing instruments that focus exclusively on adaptation funding, most funds cover both mitigation and adaptation with, based on the description of the funds' objectives, a stronger focus on mitigation.

53. The following sections briefly review the three funds established under the UNFCCC and Kyoto Protocol and the Clean Development Mechanism (CDM). The first two are managed by the GEF. They are the Special Climate Change Fund (SCCF) and Least Developed Country Fund (LDCF). Concerns have been expressed by developing countries about the governance structure of the GEF including domination by donor concerns; complex, time-consuming procedures and difficult access; lack of transparency in decision-making, and an emphasis on projects at the expense of more programmatic approaches.

54. The third financing mechanism under the Convention, the *Adaptation Fund*, was established to finance adaptation projects and programmes in developing countries that are Parties to the Kyoto Protocol. Funding is derived primarily from the proceeds of a 2% levy on transactions under the CDM. After lengthy debates about its governance structure, the Adaptation Fund is receiving support by many developing countries which feel more ownership because of a majority representation for developing countries on the governing body. Created in 2001, the Adaptation Fund is only expected to become operational toward the end of 2009.

55. The *Clean Development Mechanism (CDM)* was established under the Kyoto Protocol to assist developing countries Parties in promoting sustainable development and to facilitate developed

(Annex I) Parties in complying with their emission reduction commitments. In 2007, proceeds from the sale of emission credits from CDM projects amounted to US\$ 7.4 billion, or triple the value in 2005. The CDM thus provides developing countries with a significant source of carbon finance to help promote sustainable development. But although the CDM has proven successful in generating emission reduction projects in many developing countries, only 30 out of the registered¹⁵ 1600 projects worldwide were located in Africa, with 15 of them in South Africa.¹⁶ Only South Africa has issued Certified Emission Reduction (CER) receipts, or in other words, now has credits available to sell.

56. While in terms of the resources currently available to Africa the CDM has so far provided insignificant resources for Africa to address its climate challenges, recent information shows an encouraging upward trend in the number of new CDM projects. As of April 2009, 23 African countries have submitted a total of 102 CDM projects¹⁷ in the CDM project pipeline. It is therefore essential that African governments both capitalise on existing carbon market opportunities, and develop a clear position for post-2012 negotiations, in order to increase the flow of resources needed to meet the challenges of climate adaptation and sustainable development (see Box 5.1). More importantly, as countries will need to demonstrate that they are taking the necessary steps to work towards the development of national policies, strategies and processes as pre-conditions to access the 'next generation' of climate funds, developing the capacity to prepare projects aiming to enhance sustainable development while claiming credits for mitigation efforts has become even more urgent. Creating carbon market opportunities was identified as a priority at the recent Third African Ministerial Conference on Financing for Development on Climate Change (see Box 5.2).

¹⁵ The approval of CDM projects goes through a rigorous process of review; only registered projects can start issuing Certified Emission Reduction receipts (CERs) which are then available for sale.

¹⁶ The other African countries with registered CDM projects are Egypt and Morocco (4 projects), Nigeria and Tunisia (2 each), and Kenya, Tanzania and Uganda (1 each). *Source*: IGES CDM Project Database (May 2009).

¹⁷ UNEP Risoe, CDM/JI Pipeline Analysis and Database (May 2009).

Table 5.1 - Summary of existing climate change funding initiatives

FUND	SOURCE & AMOUNT OF FUNDING ^{a/}	SHORT DESCRIPTION
Convention Funds		
Adaptation Fund (AF) of the UNFCCC	Mainly 2% levy of CDM transactions, US\$300m (millions)	Multilateral fund administered by the Adaptation Fund Board, focusing on adaptation.
Least Developed Country Fund (LDCF) of UNFCCC	GEF Trust Fund, US\$172m	Multilateral fund managed by the GEF, to address the special needs of the LDCs and includes the preparation of NAPAs.
Special Climate Change Fund (SCCF) of UNFCCC	GEF Trust Fund, US\$107m	Multilateral fund managed by the GEF, focusing on long-term adaptation measures to build resilience.
The GEF Trust Fund – Climate Change focal area	Total GEF replenishment since 1994 of US\$10.9 billion.	Multilateral fund governed by the GEF, focusing on adaptation and mitigation (renewable energy, energy efficiency etc.) in developing countries and economies in transition.
Clean Development Mechanism (CDM)	N/A ^{b/}	CDM allows emission-reduction projects in developing countries to earn emission credits which can be used by developed countries to meet part of their emission reduction targets.
Non-Convention Funds		
Climate Investment Funds (CIF) that encompasses the Strategic Climate Fund (SCF) and the Clean Technology Fund (CTF)	US\$6.3 billion	A funding framework serving as vehicle for the receipt and disbursement of donor funds managed by the World Bank for piloting new approaches or scaling up activities aimed at specific climate change challenge or sectoral responses.
<i>Strategic Climate Fund (SCF, \$1.7 billion)</i> in turn covers: - Pilot Program for Climate Resilience (PPCR, \$325 m) - Forest Investment Program (FIP, \$58 m) and - Scaling-Up Renewable Energy Program (SREP, \$110 m)	(US\$1.7 billion)	-The PPRC helps the most vulnerable developing countries explore practical ways to increase climate resilience in core development planning and budgeting. - FIP finances investments in developing countries to reduce GHG emissions from deforestation and forest degradation (under consideration, not yet approved). - The SREP demonstrates the economic, social, and environmental viability of low-carbon development pathways in the energy sector.
<i>Clean Technology Fund (CTF)</i>	(US\$4.2 billion)	Multilateral fund administered by the World Bank, focusing on mitigation activities and demonstration and transfer of low carbon ion technologies.
Forest Carbon Partnership Facility (FCPF)	US\$165m	Multilateral fund administered by the World Bank, focusing on mitigation through REDD.
Carbon Partnership Facility (CPF).	US\$470m	Aims to support developing countries towards lower carbon development paths. FCPF and CPF are part of the World Bank's Investment Framework for Clean Energy and Development (CEIF).
Congo Basin Forest Fund (CBFF)	US\$200m	Multi-donor fund with the AfDB as the implementing agency, to help promote biodiversity conservation, natural resource management and mitigation through REDD in Central Africa.
Strategic Priority on Adaptation (SPA)	US\$50m	A 3-year pilot programme for adaptation planning administered by GEF.
UN-REDD Program	US\$35m	Multi-donor trust fund managed by UNDP (jointly with UNEP and FAO), focusing on mitigation through REDD.
MDG Achievement Fund – Environment and Climate Change window (MDG)	US\$90m (by US as part of multi-country UN pledges, most not confirmed).	Multilateral fund, administered by UNDP, focusing on adaptation and general mitigation.
EU-Global Climate Change Alliance (GCCA)	US\$300m (€220m)	Designed to build a new alliance between the EU and developing countries, the initiative focuses on adaptation, general mitigation and REDD.
Cool Earth Initiative (Japan)	US\$10 billion	A bilateral fund administered by the Government of Japan, focusing on adaptation and mitigation activities.
Environmental Transformation Fund (UK)	US\$1.2 billion (£800m)	A bilateral fund administered by the UK Government, focusing on adaptation and mitigation with some components administered via the World Bank and the AfDB (Congo Basin Forest Fund).
International Climate Initiative (Germany)	US\$170m (€120 m)	A bilateral fund administered by the Government of Germany, focusing on adaptation and general mitigation.
International Forest Carbon Initiative (Australia)	US\$180m (AUD200m)	A bilateral fund administered by the Government of Australia, focusing on mitigation through REDD.

Notes: a/ Pledged amounts, actual disbursements are smaller and in some cases, significantly so. b/ Proceeds from the sale of emission reduction credits from CDM projects, which reached US\$7.6 billion in 2008 are not resources that are available to climate-related activities but instead are income flows accruing to CDM project developers.

Source: Adapted from Brief (no author) produced for Financing for Development Conference on Climate Change, Kigali, 21-22 May 2009.

Box 5.1: How to make the carbon market more relevant to Africa

A review of the CDM commissioned for the 11th meeting of the APF in Addis Ababa highlights a number of factors which explain Africa's low share of CDM transactions. They include barriers related to CDM procedures and modalities (pre-2012); barriers related to CDM approach and scope in the post-2012 period; financial barriers; and institutional and capacity barriers within host countries. These are briefly summarised below:

- 1) Encourage further simplification of the general CDM procedures such as 'small-scale CDM' and 'programmatic CDM' that allow for more flexible modalities and reduced transaction costs to CDM project development;
- 2) Encourage broadening the range of eligible CDM projects in agriculture, forestry and other land uses (AFOLU) which are currently limited to narrowly defined afforestation/reforestation activities. The land use sector that accounts for 73 percent of total emissions from Africa holds very significant potential both for emission mitigation and for carbon finance in Africa. The likely integration of REDD in the post-2012 climate agreement lends further weight to the above.
- 3) Support the concept of a sectoral approach to CDM that is being actively discussed and would allow countries to shift from a project-based to a sector-based approach by establishing sectoral baselines and granting carbon credits for emission reductions relative to these sectoral baselines. The sectoral approach would provide financing opportunities for sectors that are presently under-represented under the CDM in Africa, such as transport.
- 4) Strengthen the institutional and technical capacities of African countries to better engage in the CDM process and make more finance, including new mechanisms, available for CDM project development.

Note: ^{a/} These recommendations are supported by a longer analysis which is accessible at <http://www.africapartnershipforum.org/dataoecd/40/15/41646964.pdf>

57. The complexities and time-lags evident in the CDM project registration process have diverted many small project developers to the *voluntary carbon market* whose value of transactions grew by 240% in 2007 to US\$331 million. The voluntary market trade is driven mainly by heavy emitting companies wanting to prepare for expected mandatory emissions trading rules in their jurisdiction, firms offsetting their emissions as part of a green marketing strategy and environmentally-motivated individuals and households. Controversy over the integrity of carbon offsets being generated in the unregulated voluntary market has given rise to a range of independent third-party administered standards for the validation of offset projects and the verification of their carbon and wider benefits. Paramount among these is ensuring real and permanent carbon sequestration, promoting wider environmental sustainability and delivering positive outcomes for local communities. Access to the voluntary carbon market could be a good learning path towards the more regulated clean development mechanism and future similar market-based mechanisms for REDD.

Box 5.2: Selected priorities for African governments in the short term

The recent Third African Ministerial Conference on Financing for Development on Climate Change (Kigali, May 21-22, 2009) agreed that greater attention must be given to actions by African governments and in particular by central ministries such as finance and economic development in order to improve access to existing finance, as recognised in the Communiqué from the Conference:

- Integrate climate issues into national and sectoral development strategies through greater cross-sectoral coordination and mobilisation of domestic resources;
- Create carbon market opportunities: building awareness about carbon finance and recognising the important contribution of the private sector – which will require a more favourable domestic investment environment and access to financing -- to addressing climate challenges;
- Be more proactive and responsive in meeting increasingly demanding requirements of existing climate funds such as evidence of country's potential to generate global environmental benefits;
- Stronger capacity building efforts both at the national and regional levels.

OPTIONS FOR THE FUTURE

5.3 Considerations on a future financial framework that reflect Africa's priorities

58. The Bali Action Plan underlines the need for financial support for developing country Parties and, more specifically, emphasises that future climate funding be 'adequate', 'predictable', 'sustainable' and 'new and additional'. The BAP also recognised that official and concessional funding will not be sufficient and therefore the need to promote 'innovative means of funding' and further efforts to mobilizing private-sector funding and investment, including carbon finance.

59. Based on these key principles, the specific concerns for Africa as expressed in the submission by Algeria to the UNFCCC on behalf of the African Group focused on the following issues:

- (i) Level of overall financial resources: reflecting the Bali key principles of 'adequate', 'sustainable' and 'new and additional' and predictable together with a preference for grants over loans;
- (ii) Equitable sharing of the burden highlighting the need for African countries to pursue their sustainable development goals and a focus on funding for adaptation; and
- (iii) Governance and access: funding to be accountable to the COP, monitorable, reportable and verifiable – the MRV concept introduced in Bali and discussed earlier under Enhanced Mitigation -- direct access with minimal management by intermediaries and avoiding fragmentation.

60. *More focus on capturing opportunities to contribute to the global mitigation effort.* Various mechanisms for financing climate change are being proposed for negotiations:¹⁸ some of these have a large potential to benefit African economies and should be actively supported. While adaptation is a high priority for Africa, opportunities to contribute to the global mitigation effort through funding for Reduced Emissions from Deforestation and Forest Degradation (REDD), which is part of the African Group proposal, could be given more emphasis. Also, given Africa's very low access to modern energy – currently, less than 25 percent of African households have access to electricity - pursuing a low-carbon growth path relying on the large potential of renewable energy– only 7 percent of Africa's hydropower potential is exploited – would strengthen Africa's claim for its fair share of existing and future climate resources in exchange for its active participation in the global mitigation effort, as well as having a positive growth and employment impact.

61. *Governance of funding mechanisms.* As noted above, significantly larger resources are currently available outside the UNFCCC framework than within it. The option of bringing all arrangements under the control of the UNFCCC may not be feasible at least in the short- to medium-term. Against this background there are strong arguments in favour of reforming the existing framework rather than creating an entirely new financing institution, with the aim of ensuring greater cohesiveness and coordination of financial and investment flows inside and outside the Convention, stronger coordination and harmonisation of procedures and practices, and the reduction of transaction costs to a minimum.

¹⁸ Details of proposals by Parties are available in the negotiating text for the June COP meeting and is accessible at: <http://unfccc.int/resource/docs/2009/awglca6/eng/08.pdf>

Table 5.2: Summary of new climate change funding initiatives

FUND	SOURCE OF FUNDS	CLIMATE FUNDS FOR DEVELOPING COUNTRIES/YEAR	OBSERVATION
AUCTIONS OF EMISSIONS ALLOWANCES			
Norway's auctioning of allowances	Part of Annex I Party's allowances withheld, auctioned by international body	US\$20-30 billion (bn) annually	Auctioning of allowances appears to be relatively well accepted. The EU has aligned its position with that of Norway.
Germany's International Climate Initiative	9% of emissions permits auctioned domestically	US\$80 million (m) for adaptation/forestry; US\$80 million for sustainable energy	
US Adaptation & National Security Fund	Portion of revenue from allowance auctions	N/A	
CARBON MARKET-BASED LEVIES			
Extending the levy to Joint Implementation and/or International Emission Trading	Extending the 2% levy on CDM to JI/IET	2008–2012: US\$5.5–8.5bn 2013–2020: US\$3.5–7.0bn	Parties were unable in Poznan to reach consensus. Low probability for resubmission.
CHARGES, LEVIES OR TAXES ON EMISSIONS OR SPECIFIC ACTIVITIES			
International Air Passenger Adaptation Levy (IAPAL)	US\$6 per ticket (Economy class), US\$62 per ticket (business/first class)	US\$8-10 bn annually, for first five years of operation.	
International Maritime Emissions Reduction Scheme (IMERS)	Levy using the global average price of carbon.	US\$9 bn annually if applied world wide.	IMERS has been reviewed and broadly endorsed by various organizations, including UNFCCC, WWF, OXFAM, and UNDP.
Swiss Global Carbon Adaptation Tax	Tax (US\$2/t CO ₂ e) on emissions from fuels. A free emission level of 1.5 tons of CO ₂ per capita is applied to all countries	US\$48.5 bn annually	There appears resistance to a carbon tax, especially if the tax has to be collected nationally for external use.
Tuvalu's Burden Sharing Mechanism (Adaptation Blueprint)	01% levy on int'l airfares, maritime transport freight charges operated by Annex I 001% levy on int'l airfares, maritime transport freight charges operated by non-Annex I (LDCs / SIDS exempt)	US\$40 m from Annex II; US\$30 m from non-Annex I	Additional funding for the UNFCCC Least Developed Country Fund and the Special Climate Change Fund.
Mexico's World Climate Change Fund	Mexico suggests the creation of a new fund (US\$10 billion per annum) and recommends a 2% adaptation levy	US\$200 m per annum.	
ASSESSED CONTRIBUTIONS OF DEVELOPED COUNTRY PARTIES			
G77 plus China	0.5% to 1% of Annex I countries' GNP	US\$201-402 bn annually	
OTHER INNOVATIVE FINANCING INITIATIVES			
EC Global Climate Financing Mechanism			

5.4 *Description of the main new financing proposals*

62. Proposals by the Parties can be regrouped into five categories. These are summarised in Table 5.2, with indicative amounts of funds that could be raised:

- *Auctions of emissions allowances:* Each of the Annex I countries receive a number of greenhouse gas units they can release and/or trade (*Assigned Amount Units, AAUs*). The underlying funding principle of this scheme is to auction a certain share of these AAUs to generate revenue rather than giving them out for free. The Norwegian proposal is the broadest with the auction occurring upstream before the AAUs are allocated to national registries. Germany has already implemented such a scheme at the national level while the US is also considering such a scheme.
- *Carbon market-based levies:* adaptation funding can be generated by applying a levy to the Kyoto Protocol's tradable units generated from the CDM, Joint Implementation projects (CDM-like but where projects are domiciled in Annex I Parties) or other emissions trading. The 2 percent levy on CDM proceeds to raise funds for the Adaptation Fund is an example of a carbon market-based levy.
- *Charges, levies or taxes on emissions, or on specific activities (such as air travel),* in which funds are raised by charging individuals and companies, based on their responsibility for climate change and/or their capability to pay. The charges or levies could be applied to air travel, fossil fuel production, or electricity use.
- *Assessed contributions of developed country Parties taking into account, for instance GDP, current emission levels or historical contribution to GHG concentration in the atmosphere.* Based on the principles of equity, common but differentiated responsibilities and respective capabilities, developed country Parties are assessed in the range of 0.5 to 1% of GDP. The G77 plus China's proposal has gained some attention politically as the main proposal put forward by the constituent governments from developing countries.
- *Other innovative ways of financing adaptation, such as the issuing of bonds based on the creditworthiness of the bond issuer as guarantees.* The European Commission's proposed Global Climate Financing Mechanism is one proposal in this category.

5.5 *Recommendations*

- ♦ On accessing funding, external partners to be more pro-active in helping to promote Africa's access to information and procedures and African countries to be more responsive to the requirements for access to existing climate funds;
- ♦ On making the carbon market more relevant to Africa,
 - Encourage the development of additional simplified methodologies for sectors with high potential in Africa,
 - Support a broader programme rewarding all relevant emissions from the agriculture, forestry and land use sectors (AFOLU) in the post-2012 period;
- ♦ Ensure that future climate financing provide new, additional, predictable and sustainable resources including through the new climate change funding initiatives currently under discussion;
- ♦ Ensure that future funding responds to the long-term sustainable development priorities of Africa, and that transaction costs are kept to a minimum.

Abbreviations and Acronyms

AMCEN	Africa Ministerial Conference on the Environment
BAP	Bali Action Plan
CDM	Clean Development Mechanism
CER	Certified Emission Reduction
CO ₂ e	CO ₂ equivalent
COP	Conference of the Parties (UNFCCC)
DDR	Disaster risk reduction
EGTT	Expert Group on Technology Transfer
EPA	US Environmental Protection Agency
EST	Environmentally Sound Technology
GEF	Global Environment Facility
GHG	Greenhouse Gases
IPCC	Intergovernmental Panel on Climate Change
IPR	Intellectual property rights
LDC	Least Developed Countries
LULUCF	Land use, land-use change and forestry
NAMA	Nationally Appropriate Mitigation Action
NAPA	National Adaptation Program of Action
NEPAD	New Partnership for Africa and Development
ODA	Official development assistance
OECD/DAC	Organisation for Economic Cooperation and Development/Development Assistance Committee
PRSP	Poverty Reduction Strategy Paper
REDD	Reducing Emissions from Deforestation and Forest Degradation
SBSTA	Subsidiary Body for Scientific and Technological Advice
SIDS	Small Island Developing States
TNA	Technology Needs Assessment
UNDP	United Nations Development Program
UNECA	United Nations Economic Commission for Africa
UNEP	United Nations Environment Program
UNFCCC	United Nations Framework Convention on Climate Change

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