



# Seventh African Development Forum

*Acting on Climate Change for Sustainable  
Development in Africa*

Climate Change, Economic Growth,  
and Poverty Reduction in Africa

*Issues Paper #12*

ADF VII • 10 - 15 October 2010 • United Nations Conference Centre • Addis Ababa, Ethiopia

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## I. Overview

1. There is consensus that climate change is a critical issue for Africa and indeed, its greatest challenge in the 21<sup>st</sup> century, along with poverty. Climate change is likely to disproportionately affect the continent's development trajectory, as most African countries are characterized by undiversified economic structures, poor infrastructure, fragile governance structures and institutions, poor human development and most importantly, the heavy reliance on agriculture for the majority of the population.
2. The threat to economic growth, which is central to development and poverty reduction, is among the most significant consequences of climate change. The impact of climate change is a threat to Africa's aspirations for growth and poverty reduction directly through the effects of changing water availability, loss of biodiversity, declining or volatile agricultural yields, climate-related humanitarian disasters (including floods and droughts), increased incidence and prevalence of vector-borne diseases, weakened infrastructure, political instability due to heightened conflict over resources, and movement of people, as well as through the secondary effects of these phenomena. The effects of climate change are more severe for vulnerable and disempowered groups in the community, including women and children who have the potential of being strong actors in current and future development. Also, a hostile climate will make achieving development goals much more costly for African countries. For example, estimates show that the external financing needed to achieve the Millennium Development Goals (MDGs) in a hostile climate is 40 per cent higher than the external financing for the MDGs alone (table 1).
3. To shed light on the nexus among climate change, economic growth and poverty reduction and the challenges ahead, two broad issues are worth exploring. The first relates to the channels through which climate change is affecting economic activity and poverty reduction, and the second, the challenges associated with managing the impact of climate change.
4. ***Climate change is already having and will continue to have severe economic consequences for Africa. It will also have a far-reaching impact on growth and poverty reduction.*** Although Africa is the continent least responsible for climate change, it is particularly vulnerable to its effects. Overall, some models suggest that an increase in temperature of about 1.5 C by 2040 could lead to an annual loss in Africa's GDP of 1.7 percent.<sup>1</sup>
5. Climate change affects Africa's growth and poverty rates in a variety of ways, such as its adverse impact on agriculture, the engine of growth and mainstay of the poor in many African countries. It also affects tourism, an important source of foreign currency, and productive factors (land, labour, and capital). Also, confronting the challenge of climate change will affect the ability of the State to sustain sound macroeconomic policies and make the necessary growth-enhancing public investment, deliver services and undertake poverty-reducing social spending. By weakening the capacity of the State to deliver services and maintain a sound institutional environment, climate change is likely to have a negative impact on capital flows, private investment and development finance.
6. It is now recognized that not only does the nature and extent of climate change hamper human development, it also forms a major threat to human security and political stability. Massive migration resulting from climate change could spark violent conflicts over resources such as land and water, complicating economic management and governance. A recent study indicates that if not checked,

<sup>1</sup> PACJA (2009), Economic Cost of Climate Change. Nairobi, Kenya.

climate change could increase the likelihood of civil conflict in Africa by 54 per cent in the coming two decades.<sup>2</sup>

7. Confronting these challenges requires adaptation and mitigation strategies that are fully integrated into national development frameworks. However, such strategies could not be delivered without sufficient financial resources, bold structural reforms, adequate technological know-how, good governance and sufficient institutional capacity. The key questions for African countries to be addressed in this regard are:

- a) What are the most effective adaptation and mitigation measures adopted so far by countries to limit the impact of climate change on economic growth and poverty reduction?
- b) What are the existing innovative climate-change financing schemes and how effective are they?
- c) What reforms in the current governance system for climate change financing are required to ensure a transparent and equitable delivery of sufficient and predictable resources for adaptation and mitigation activities?
- d) What type of incentives, regulation and public investment are needed to enable African countries to fully unlock their green-economy potentials and accelerate economic diversification?
- e) How could African countries take advantage of flexibilities in the current legal and policy framework governing global property rights?
- f) What reforms of the current legal and policy framework governing global property rights are needed to encourage the transfer of environmentally-friendly technologies?
- g) How can African countries effectively mainstream mitigation and adaptation into their development plans?

## II. Adapting to the impact of climate change will be costly to African countries

8. *Adaptation is projected to cost African countries many billions of dollars a year, increasing pressure on development budgets. Changing climatic conditions make it increasingly difficult to extrapolate the costs of adaptation from past practices. According to the recent Intergovernmental Panel on Climate Change (IPCC) report, the cost of adaptation in Africa could be as high as five to 10 per cent of the continent's GDP.<sup>3</sup> According to the Pan-African Climate Justice Alliance (PACJA), Africa's potential adaptation financing needs to address these costs, which are highly uncertain and range from an estimated minimum of US\$ 10 billion a year to US\$ 30 billion or more by 2030.*

9. *Besides financing, institutional innovations will be essential if adaptation measures are to be effective. These innovations include building or improving the capacity of households and communities to adjust to climate change by changing livelihood choices, asset allocation, location and technology. They also include the introduction or the refinement of protective schemes, such as safety nets and*

<sup>2</sup> UC Berkeley Press Release (23 November 2009) quoting a study on "Climate change could boost incidence of civil war in Africa, conducted by researchers from UC Berkeley, Stanford University, New York University and Harvard University and published in the Journal Proceedings of the National Academy of Sciences (PNAS).

<sup>3</sup> IPCC (2007). Climate Change 2007: Climate Change Impacts, Adaptation and Vulnerability - Summary for Policymakers. Contribution of Working Group II to the Fourth Assessment Report of the IPCC. Geneva.

risk-management instruments to reduce the vulnerabilities of households and communities. All these innovations cannot be deployed without the strong involvement of governments at the local, national and regional levels, and the international community. Support from these stakeholders in areas such as impact assessment, disaster risk management, enhancing understanding and strengthening institutional capacity, demonstration and sharing of experiences, and planning and prioritizing can greatly assist communities adapt to climate change. Another critical institutional innovation that can support adaptation is public awareness and knowledge about making development more climate-resilient, a situation which has been lacking in much of the continent.

10. *Economic diversification is needed to reduce vulnerability to climate change.* All the above institutional innovations should go hand in hand with fundamental changes in the production and export structures of African economies. In a way, such changes should reduce Africa's vulnerability to the impact of climate change as well as steer the continent away from the heavy reliance on static engines of growth, which have sustained the vicious cycle of weak and volatile economic growth, stubbornly high unemployment rates and limited poverty reduction.

11. *If there is ever a time in the history of African development that effective industrial policy is needed, it is now, to address the dual challenge of economic transformation and climate change.* Industrial policy and structural reforms are essential in promoting dynamic engines of long-term growth, which are supported by accumulation of productive resources, including physical and human capital. These engines should be driven by high productivity sectors and investment in agricultural value chains and manufacturing, with important spillover effects on the rest of the economy.

### **III. Addressing Africa's energy needs and economic transformation without compromising the climate**

12. Although Africa accounts for a relatively marginal share of global green gas emissions, its *participation in global mitigation efforts does not always contradict the continent's quest for development.* It is true that the continent faces the urgent challenge of expanding energy infrastructure and coverage, which are essential for rapid economic and social transformation. Yet, achieving low-carbon growth is possible and in fact, an opportunity for Africa's development. Clearly, there is enormous potential for this, including through the development of Africa's huge hydro-power resources: African countries should take advantage of these opportunities. Promoting a green economy involves investing in such sectors as energy efficient technologies, renewable energy, public transport, sustainable agriculture, environmentally-friendly tourism and sustainable management of natural resources. This can create dynamic new industries, employment and higher incomes, while enabling mitigation to climate change.

13. It is also in *the wider global interest that Africa should take full part in global mitigation efforts.* Its active participation in global mitigation initiatives, particularly through sustainable forest management, is essential to the success of world-wide efforts that aim at reducing greenhouse gas emissions. A number of African countries have already received support to formulate and implement their programmes for the Reduction of Emissions from Deforestation and Forest Degradation (REDD). Such assistance should be extended to most African countries.

14. *The development, diffusion, and transfer of technology are key in successfully deploying mitigation and adaptation activities.* Climate change-related technologies help households, firms and countries to reduce their greenhouse gas emissions. They also enable them to withstand permanent climatic shocks relatively well. Trade and foreign direct investments (FDIs) are the essential vehicles through which these technologies are delivered.

15. One aspect that constrains the introduction and diffusion of climate change-related technology through trade and FDIs is the content of the Agreement on Trade-related Aspects of Intellectual Property Rights (TRIPS) and the way this agreement is implemented. Although TRIPS is meant to encourage innovation by protecting new technologies and providing incentives to innovators, it comes at the cost of limited competition and high prices. This constrains access to these resources for African and other developing countries. However, despite the restrictive nature of TRIPS, there are some technology transfer-friendly principles and provisions in this framework. In particular, several principles and provisions explicitly support the attainment of some developmental goals. Africa should fully exploit the opportunities offered by such flexibilities.

16. Likewise, the identification of the technological needs of countries and their existing capacities are essential for the rapid deployment and adoption of new technologies. Given some of the similarities between Africa and other developing regions in terms of challenges, South-South cooperation could be an effective vehicle for experience sharing and peer-learning.

#### **IV. National development plans must integrate adaptation, mitigation and development**

17. The consequences of climate change are multidimensional and interrelated. Therefore, rolling out adaptation and mitigation activities demands a holistic perspective, which can be achieved only by mainstreaming adaptation and mitigation measures into wider development planning and budget processes. The success of an integrated adaptation and development framework hinges on several key actions.

18. These actions include *raising awareness and enhancing capacity for integrating adaptation, mitigation and development.* Integrating climate change adaptation must start with raising awareness that more variable and more intense climatic conditions are expected, and encouraging policy changes that reflect this change. Special consideration should be given to how climate change may affect vulnerable and disempowered groups such as women, children, migrants, and people with disabilities. Raising the awareness of development advisers and others and augmenting their ability to respond efficiently through appropriate training and support will facilitate integration of National Adaptation Programmes of Action (NAPAs) into national development plans and poverty reduction strategies. Proposing coherent national action plans as a means to implement adaptation, mitigation and development measures will also help to secure adequate domestic funding as well as the required additional external funding in both the short and long term.

19. *Integrating climate risk management into development practice.* While agriculture has traditionally been the focus of attention on climate change impact, nearly every sector is sensitive to climate change and will need to adapt to future conditions. Adaptation must be approached as a cross-sectoral issue and should no longer be perceived as the sole responsibility of the ministry of environment.

Involving the ministries of planning and finance is crucial to reflect adaptation efforts in the budget. Efforts should be made to increase coordination across ministries and sectors and raise the issue of climate change to a higher level of political and policy priority.

20. *Learning from good experiences in Africa and elsewhere.* Some examples of the incorporation of appropriate climate information into development decisions exist in Africa. These include early warning systems in Ethiopia, the exemplary meteorological information dissemination system in Mali and innovative private sector efforts for managing climate-related risks in Malawi. Effective peer-learning among African countries will assist in effectively utilizing existing best practices and accumulated knowledge.

## **V. Conclusion**

21. Climate change will have a dramatic social and economic impact on Africa, tax individuals, firms and governments and reduce growth by drawing resources away from development. Even if global carbon emissions were reduced tomorrow, Africa would still be faced with the massive challenge of adapting to climate change while promoting faster economic and social development. Based on existing evidence of the extent of climate change on the continent, future climatic shocks of particularly larger magnitude and frequency may further affect economic growth and lock many African countries in poverty traps.

22. To achieve sustainable growth, fight poverty and attain other development goals, African countries will have to expand their energy, transport and urban systems and agricultural and industrial production. The big questions they should consider in this context are: "How can this be done in a way that promotes development needs without exacerbating the problem of climate change?" "How do African countries pursue growth and prosperity without affecting climate change?" The world must recognize that Africa will see emissions grow for some time (albeit with only small contributions to global emissions). However, a high-carbon growth path is unsustainable. Adapting, therefore, requires robust decision-making, long-term planning, considering a broad range of climate and socio-economic scenarios and adopting climate-smart policies that enhance development, reduce vulnerability and finance the transition to low-carbon growth paths.<sup>4</sup>

23. Lastly, regional institutions should play a leadership role in helping Africa meet the challenges of climate change. This role must include coordination and capacity-building for adequate representation of the continent in climate change negotiations and global governance mechanisms.

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<sup>4</sup> See World Bank, *World Development Report 2010: Development and Climate Change*. Washington, D.C, USA

**Table 1: Estimated impact of climate change on the cost of achieving the MDGs and adaptation needs in Africa, 2010-2020 (US\$ billion per year)**

MDG costs by sector (\$Bn p.a. for 2010-20)	ODA needs for MDGs		External public funding needs for adaptation	Adaptation needs	
	Cost 2010-20	of which ODA*		Low cost scenario	High cost scenario
Agriculture & nutrition (inputs, irrigation, rural infrastructure and research)	11.4	8.0	1.6-2.7	1.6	2.7
Nutrition & school feeding	5.7	4.0	0.0	0.0	0.0
Education (primary and secondary)	11.9	8.3	0.0	0.0	0.0
Health (AIDS, TB, NTDS, malaria, health system and family planning)	40.0	28.0	1.2-2.3	1.2	2.3
Infrastructure (energy, transport, water and sanitation, regional ICT and trade facilitation)	43.3	23.7	4.2-8.4	4.2	8.4
Sub-total: MDG cost (including statistical errors)	112.3	72.0	7.0-13.4	N/A	N/A
Additional interventions (capacity- building, disaster response etc.)	9.8	9.8	3.8 – 7.1	0.9	3.7
<b>GRAND TOTAL</b>	<b>122.5</b>	<b>82.1</b>	<b>10.8-20.5</b>		

Source: Fankhauser, S and Schemdit-Traub, G. (2010) "From adaptation to climate-resilient development: the cost of climate proofing the Millennium Development Goals in Africa. Graham Research Institute. London, UK, tables 1 and 2 (summary); N/A = not applicable.

