

Fifth Conference on Climate Change and Development in Africa

28th - 30th October 2015

Victoria Falls, Zimbabwe

Africa, climate change and sustainable development: what is at stake at Paris and beyond?

Revisiting article 2 of the United Nations Framework Convention on Climate Change¹

The **ultimate objective** of this Convention and any related legal instruments that the Conference of the Parties may adopt is to achieve, in accordance with the relevant provisions of the Convention, **stabilization of greenhouse gas concentrations in the atmosphere** at a level that would prevent dangerous anthropogenic interference with the climate system. Such a level should be achieved within a time-frame sufficient **to allow ecosystems to adapt naturally to climate change, to ensure that food production is not threatened and to enable economic development to proceed in a sustainable manner.**¹ (art. 2 of the United Nations Framework Convention on Climate Change, our emphasis)

Abstract

The immediate effects of climate change in Africa are being experienced primarily in terms of human security as a result of threats to food and water supplies. These are made manifest through reduced or variable precipitation, droughts and flooding and the consequent disruption of agricultural systems. Such effects are exacerbated by associated infrastructure losses, reduced hydro-generation capacity, and the rise of conflict owing to reduced access to natural resources upon which African people depend considerably for their lives and livelihoods. Climate change also has impacts on ecosystem security. Article 2 of the United Nations Framework Convention on Climate Change seeks inter alia to control carbon emissions while at the same time supporting sustainable development. The ability of Africa to ensure food and energy security for its citizens is at the core of sustainable development. Thus, a climate governance framework that provides conditions for sustainability in Africa would need to address issues of agriculture, food processing and distribution and reliable supplies of clean energy.

Introduction

It is now generally accepted that anthropogenic climate change poses a major threat to all the advances made by humanity unless drastic and urgent responses are implemented to control emissions and support adaptation to already occurring climate change. However, since the Earth Summit held in Rio de Janeiro, Brazil, in 1992, global efforts to respond to climate change have not been particularly successful. Instead, global warming has worsened and the search continues for an appropriate governance framework capable of adequately controlling greenhouse gas emissions, generating new resources and investments in adaptation and disaster risk reduction, and ensuring that development remains sustainable. As Rees (2014) observes, “human-induced global change represents a new context for development planning that cannot safely be ignored.”¹ For Africa, climate change has massive implications for development. The continent contributes the least greenhouse gasses but stands to lose the most with climate change because of its vulnerability and limited adaptation capacity. Consequently, it is the continent that has the greatest interest in a climate governance framework that is functional and capable

¹ William E. Rees, *Avoiding Collapse: An agenda for sustainable de-growth and re-localizing the economy* (Canadian Centre for Policy Alternatives, 2014). Available from <https://www.policyalternatives.ca/publications/reports/avoiding-collapse>.

About ClimDev-Africa

The ClimDev-Africa Programme is an initiative of the African Union Commission (AUC), the United Nations Economic Commission for Africa (ECA) and the African Development Bank (AfDB). It is mandated at the highest level by African leaders (AU Summit of Heads of State and Government). The Programme was established to create a solid foundation for Africa’s response to climate change and works closely with other African and non-African institutions and partners specialised in climate and development.

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of controlling emissions while at the same time providing for adaptation to already occurring changes in the climate system. To this end, African States have been parties to the United Nations Framework Convention on Climate Change from its outset, and have developed several high-level continental, subregional and national mechanisms to streamline their implementation of the Convention. Through the African Union Commission, African countries have set up a Committee of African Heads of State and Government on Climate Change. At the ministerial level, several bodies, including the African Ministerial Conference on the Environment, the African Ministerial Conference on Water and the African Ministerial Conference on Meteorology, have been set up to coordinate the African response to climate change in various sectors and to foster African collaboration under the global climate governance regime. The ultimate objective of these initiatives is to ensure the continued sustainable development of African economies in a changing climate.

The United Nations Framework Convention on Climate Change recognizes the need for a framework that would address the twin challenges of controlling emissions and supporting sustainable development. Article 2 of the Convention sets out several objectives, including the stabilization of atmospheric greenhouse gas concentrations, the setting of a time frame that would allow for adaptation to climate change, and the need to ensure sustainable development:

“The ultimate objective of this Convention and any related legal instruments that the Conference of the Parties may adopt is to achieve, in accordance with the relevant provisions of the Convention, stabilization of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system. Such a level should be achieved within a time-frame sufficient to allow ecosystems to adapt naturally to climate change, to ensure that food production is not threatened and to enable economic development to proceed in a sustainable manner.”

However, the impact of the Convention and its associated Kyoto Protocol has been somewhat mixed. While major advances have been made in understanding the climate system and in designing and implementing adaptation strategies, global warming is continuing and according to some estimates actually accelerating. Reservations in the context of global climate governance are increasing and cooperation is limited inter alia by national self-interest. There is therefore great anticipation that at the twenty-first session of the Conference of the Parties to the United Nations Framework Convention on Climate Change (COP 21), to be held in Paris in December 2015, the world will construct a climate governance framework capable of limiting global warming and supporting sustainable development in an already warmer world.

The year 2015 is a watershed year for Africa and for the world. Three major events that will shape the course of our planet for years to come are scheduled to take place during the course of this year. In July 2015, the International Conference on Financing for Development was convened in Addis Ababa. The United Nations Summit to Adopt the Post-2015 Development Agenda will be convened in New York in September 2015. The Summit will adopt global sustainable development goals, which will define the development planning framework in the post-Millennium Development Goal era. African States have developed a common position on the post-2015 development agenda based on a comprehensive consultation process. Finally, December 2015 will see the convening of COP 21, which will seek to develop a climate governance framework to succeed the Kyoto Protocol. Climate change will be central to all these processes, and the outcomes of COP 21 will determine the ability of the world to meet and sustain its development goals.

The expiry of the Kyoto Protocol is an opportunity for reflection on the performance of the United Nations Framework Convention on Climate Change since its adoption, specifically, the achievement of its goal as stated in article 2 of the Convention. For Africa in particular, such a reflection should involve assessing the impacts of climate change on the development trajectory thus far; modelling future development trajectories on the basis of different climate scenarios; and, on the basis of these assessments, contribute to the design of a post-Kyoto Protocol framework capable of satisfying the objectives of article 2. As already articulated in several messages from the African continent, a progressive agreement in Paris should be ambitious and follow as closely as possible the recommendations of the fifth assessment report of the Intergovernmental Panel on Climate Change, and should include:

- The adoption of a binding climate change agreement which addresses the key pillars of the Bali Road Map and is based on the principle of common but differentiated responsibility

- A strong commitment to keep temperature increases below 1.5°C
- An emphasis on the importance of adaptation for Africa
- Additional and adequate funding, including a strong commitment to capitalize the Green Climate Fund

The Conference on Climate Change and Development in Africa was conceived as an annual forum to enable linkages between climate science and development policy by promoting transparent discussions between key stakeholders in the climate and development community. The Conference seeks to mainstream climate information into decision-making and strengthen capacities focusing on climate-sensitive sectors such as agriculture, food security, energy and transport. The Conference achieves this objective by bringing together researchers, policymakers, development practitioners, climate scientists, user groups and other stakeholders to better understand contemporary climate change issues. In so doing, they contribute towards the identification and elaboration of appropriate responses, including providing support for policy responses, mitigation, adaptation and technological innovations. Previous Conferences have focused on issues of climate science and policy, and have emphasized the need to use climate science and climate information to support the development process. The themes of past Conferences on Climate Change and Development in Africa have been “Development first: addressing climate change in Africa” (first Conference); “Advancing knowledge, policy and practice on climate change and development” (second Conference); “Africa on the rise: can the opportunities from climate change spring the continent to transformative development?” (third Conference); “Africa can feed Africa now: translating climate knowledge into action” (fourth Conference).

Objectives

The fifth Conference on Climate Change and Development in Africa will be a moment of reflection on the performance of the United Nations Framework Convention on Climate Change in achieving its stated objectives of emissions reduction and sustainable development. The Conference will be a culmination of climate change dialogues across the continent and will focus on addressing the climate change, sustainable development and equity issues under article 2 of the Convention in the context of the broad theme “Prospects for sustainable, resilient and creative economies in Africa in the context of a changing climate”. The Conference will seek to review the implementation of the contemporary global climate governance regime with a view to evaluating its impact on the objectives of article 2 of the United Nations Framework Convention on Climate Change, particularly with reference to Africa’s sustainable development. Issues involving greenhouse gas stabilization and the implications of global warming for Africa’s sustainable development will be addressed through a review and analysis of the interactions between climate sciences and policy in the global climate governance framework. The Conference will review the application of the principles of the Convention with particular emphasis on the implications of the principles for equity. This is an opportune moment to engage the African continent and the world in such a review. The review will gather information on experiences with African climate change thus far, and seek to inform the COP 21 framework on African perspectives. The discussions will also be the basis for developing climate-sensitive development policies and processes in Africa in the post-COP 21 period.

Specifically, the fifth Conference on Climate Change for and Development in Africa will have the following objectives:

1. To deepen the understanding of the role of climate data, information services and climate knowledge in development planning and climate proofing of Africa’s economic development processes.
2. To share experiences and deepen the understanding of climate trends and the impacts of climate change in key development sectors in Africa, and the implications of these experiences for the continent’s sustainable development.
3. To contribute towards the development of common African positions regarding the post-Kyoto Protocol global climate governance regime.
4. To anticipate the outcomes of COP 21 and to initiate preparations for the implementation of the post-COP 21 phase, such as the intended nationally determined contributions (INDCs) currently under preparation.

5. To build on the recommendations of the fourth Conference on Climate Change and Development in Africa and the climate research frontiers identified at the 2013 Africa Climate Conference.

6. To continue to be the main African platform for networking between climate and development stakeholders.

Expected outputs and outcomes

Outputs

- Conference summary statement
- Conference report
- Policy briefs
- Web publications
- Daily publications
- Press releases
- Peer-reviewed Conference publications (books, book chapters and proceedings)

Outcomes

- Enhanced understanding of the linkages between climate science, policy and the developmental and equity outcomes engendered by the prevailing global climate governance regime• Better understanding of recent climate change trends and the implications for Africa's sustainable development
- Increased focus on investment and partnerships within the field of climate research for development by African Governments and partners
- Improved knowledge of the opportunities for clean energy development to inform the development and enhancement of appropriate policy platforms to support renewable energy initiatives
- Integration of climate change issues into comprehensive rural development programmes to inform sustainable development planning

Sub-themes

Global governance of climate change

- Climate science, the principles of the United Nations Framework Convention on Climate Change, and the COP 21 framework
- From a cap-and-trade approach to a pledge-and-review process
- Global climate change governance and sustainable development in Africa

Climate change and sustainable development in Africa

- Rural development, agriculture and resilience
- Opportunities for innovative financing
- Renewable energy and sustainable development
- Trade, Trade-Related Aspects of Intellectual Property Rights (TRIPS) and technology transfer
- Climate change and gender

To open up the space for more in-depth discussions on specific climate change and development topics identified under the sub-themes, the second day will be dedicated to five parallel sessions. Presentations, tailored to each topic, will be moderated by experts on each sub-theme.

Pre-events

The 27th October is set aside for pre-event forums which will be hosted by ClimDev-Africa and partner organizations on topics that are in line with the theme of the conference.

Side events

Other side events and workshops may be organized on a variety of topics related to the broad theme of the fifth Conference on Climate Change and Development in Africa. Relevant themes include:

- Young people and climate change
- Climate change and sustainable development in Africa
- Role of the media in communicating climate-related impacts and adaptation options
- Role of African farmers in local adaptation initiatives
- Gender and climate change
- Climate change education
- Climate change, indigenous knowledge and livelihoods

Exhibitions

Organizations may wish to express an interest in securing a booth to exhibit products such as books, innovations/solutions, posters and other materials.

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The State and Africa's prospects for sustainable development under climate change

- Vulnerability and development policies
- Mainstreaming climate change into development policy and practice
- Climate change and disaster risk reduction

Climate Research for Development

Sub-themes

Global governance of climate change

Climate science, the principles of the United Nations Framework Convention on Climate Change, and the COP 21 framework

Governance is a very recent concept in climate and natural resources discourse and practice. Although there is not yet a strong consensus on how to define "governance", the concept is generally used to describe how power and authority are exercised and distributed, how decisions are made, and to what extent citizens are able to participate in decision-making processes. Hence, governance is about making choices, decisions and trade-offs, and it deals with economic, political and administrative questions. The principal climate change concern for Africa is its implications for development and the well-being of societies and ecosystems. The governance of climate change adaptation on the continent thus requires a review of the nature and trajectory of growth and development processes, the democratization of global systems to achieve equity, and the realignment of decision-making processes to facilitate greater public engagement in the formulation of global and national responses to climate change.

The trajectory of the global climate governance framework reflects the outcomes of complex interactions between the different and sometimes conflicting interests of developing and developed countries, of governments and markets, and of public and private interests, among others. The negotiations at the successive sessions of the Conference of the Parties to the United Nations Framework Convention on Climate Change have focused on defining the main components of the climate response (mitigation and adaptation); apportioning responsibilities for these responses (e.g. the classification of parties to the Convention into so-called "Annex 1" and "non-Annex" countries, with each category having different sets of responsibilities); and identifying options for financing the climate response (include the mobilization and distribution of climate funds), and monitoring and verification mechanisms.

The Convention has influenced African national responses to climate change in significant ways, defining and supporting national policy frameworks, implementing capacity-building programmes, and providing some funding for national climate responses. However, Africa's role in shaping the architecture, content and effect of the convention has been limited by several factors, including limited capacities – both financial and technical – which have caused Africa's participation in the Convention processes to be episodic rather than continuous; the varying approaches of different countries which have complicated African common positions on many Convention issues; and climate change financing mechanisms which are accessed on an individual country basis.

As the global climate governance framework has evolved and become more complex, the challenges of engaging with this framework to reflect the interests of the African States as well as to create an environment conducive to the development of African national responses has also become more challenging. Various initiatives have been launched to support African Governments and negotiators in the United Nations Framework Convention on Climate Change processes. These have cumulatively improved Africa's engagement with the Convention and its protocols.

The challenges of constructing a binding global agreement on climate change were starkly laid bare in the implementation of the United Nations Framework Convention on Climate Change. The response to the resulting stalemate – the Kyoto Protocol – itself became problematic as some countries refused to be bound by its provisions, and others later withdrew from the Protocol for a variety of reasons. The Kyoto Protocol was effectively terminated in 2012, to be replaced by a successor climate agreement which was to be finalized at the fifteenth session of the Conference of the Parties to the United Nations Framework Convention on Climate Change, held in Copenhagen. However, that session of the Conference did not result in an agreement, thus reflecting the different interests and ambitions of the parties, and instead produced a set of interim measures to guide the transition from the Kyoto Protocol to a

new climate agreement. The twenty-first session of the Conference of the Parties to the United Nations Framework Convention on Climate Change (COP 21), to be held in Paris in December 2015, is expected to produce a new climate agreement which will define global climate governance in the period following the Kyoto Protocol. COP 21 will therefore be a landmark moment in the evolution of global climate governance.

For Africa in particular, COP 21 will see the creation of a new global agreement coincide with the increasing influence and confidence of Africa on the global scene. African economies have grown significantly over the past decade. The amount of investment flows into the continent have increased exponentially. Democratization and other processes to streamline governance systems in all spheres of economic activity have been undertaken successfully in most African countries. In the climate change context, the continent has put in place a Committee of African Heads of State and Government on Climate Change; African Ministers of Environment now convene an annual conference at which climate change has become the most significant discussion; African regional economic commissions have elaborated regional climate strategies; and most African Governments have put in place policy and legal frameworks to guide their own national climate responses. Nonetheless, climate change remains a global rather than national challenge, and as such national responses can be effective only in the context of an enabling global framework.

The global context in which the climate response is framed is characterized by a divergence of interest between the global North and South. This divergence is reflected in the outcomes of many past sessions of the Conference of the Parties to the United Nations Framework Convention on Climate Change, which have tended to sideline the interests of developing countries. However, there is also a growing recognition that failure to put in place adequate climate responses will have dire consequences for both the developed and developing world. Climate change threatens the advances made by developed countries while at the same time presenting massive challenges for the growth of developing economies as the incidence and costs of climate related disasters increases. The world has long been galvanized into action, but the evidence indicates that the response thus far is inadequate. Africa, as the continent that contributes the least to global warming and suffers the most from climate change, is singularly interested in a post-Kyoto Protocol framework that would ensure that global climate governance continues to be based on the precautionary principle and common but differentiated responsibility, sufficiently addresses the so-called “polluter pays principle” and builds on article 2 of the United Nations Framework Convention on Climate Change. It is imperative for African negotiators, scientists, policymakers and members of the general public to debate the structure and content of an agreement that would deliver such a global governance framework, and to seek ways of advancing the negotiation process towards this agreement.

A core principle of the United Nations Framework Convention on Climate Change is the principle of common but differentiated responsibility. Article 3, paragraph 1, of the Convention states:

The Parties should protect the climate system for the benefit of present and future generations of humankind, on the basis of equity and in accordance with their common but differentiated responsibilities and respective capabilities. Accordingly, the developed country Parties should take the lead in combating climate change and the adverse effects thereof.

Common but differentiated responsibility has probably been one of the most contested principles of the Convention. Its interpretation reflects those reservations, which are based on national self-interest and the geopolitical considerations of the developed world in particular. But how will the ideals enshrined in the principles of the Convention be represented in a post-Kyoto Protocol climate governance framework given the geopolitical and economic issues underlying the negotiations processes? The parties to the Convention have historically had different interpretations of common but differentiated responsibility, as reflected in the tensions between mitigation and adaptation strategies. Mitigation is seen as the reflection of the historical responsibility for greenhouse gas emissions, which must be borne by the developed industrialized North. Adaptation, on the other hand, should define compensatory payments made by the industrialized countries to those who bear the costs of climate change to which they have contributed little. In the lead-up to Paris, the dominant narrative appears to have become one based on a recognition that responsibilities for emissions are not static, and that therefore developing countries should also move beyond adaptation and integrate mitigation in their climate strategies by controlling their emissions. This is the defining debate underlying the road to the twenty-first session of the Conference of the Parties to the United Nations Framework Convention on Climate Change (COP 21).

adaptationAbsence of national frameworks for functional partnerships between the State, the private sector and civil societyInadequate frameworks for decentralized policymaking to accommodate local governments and community interests and so onThis situation undermines the articulation of key governance principles such as equity, stakeholder participation, accountability and transparency into national climate responses.

Other challenges for the African State result from inadequate investment in strategic areas for climate change adaptation. Most State and civil society actors are involved in climate change awareness-raising, capacity-building, and research with fewer investments in legislative aspects, coordination, investment regulation and financial cooperation. Africa is on a development trajectory characterized by high rates of growth, increasing foreign direct investment and overseas development assistance, and the creation of conducive environments for investment. However, the State’s capacity to integrate climate change adaptation into these developments is limited. Climate change governance in Africa calls for a review of the quality of growth and development processes, an emphasis on equity and improvement of the level of public engagement in the formulation of national responses. Specifically:

- Mainstreaming climate change into economic frameworks and sectoral policies is of paramount importance in order to ensure integrated adaptation responses. The current state of national adaptation strategies and the confinement of the climate change agenda to the environment sector makes it difficult for development planners to have a holistic perspective of adaptation priorities at both macro (national) and micro (local) levels.
- The assessment of social and economic vulnerabilities needs to be strengthened so as to inform processes for identifying adaptation priorities.
- National adaptation policies should provide clear guidelines integrating and implementing strategies, programmes and activities.
- Macroeconomic policies need to be reviewed to ensure that they build the resilience of the poor and enhance their capacity to adapt to the impacts of climate change.

Finally, many African Governments have limited ability to mobilize funding for climate change adaptation and are almost completely reliant on donor funding to support national climate policies and programmes. In such cases, climate change adaptation capacities reside in NGOs and donor agencies than within the State. This means that many climate adaptation initiatives are typically designed and implemented outside national policy frameworks, even when such policy frameworks exist. Yet the State ostensibly continues to play the central coordination role in climate governance. The limited financial capacities imply a mismatch between the policy and coordination intentions of the State and the governance realities of a largely projected climate response.

In such a scenario, and given the challenges of foreign direct investment and market expansion for climate governance, a key governance question that occupies us is: how can the capacities of the African State, and by extension those of regional institutions, be strengthened to ensure the emergence of robust climate governance frameworks in Africa?

Organization of the Conference

The Conference will follow the format of earlier Conferences on Climate Change and Development in Africa. It will consist of a high-level dialogue, plenary sessions, parallel sessions, pre-events, side events and post-events. A number of eminent participants will deliver keynote addresses on the experiences and outcomes of the extant global climate governance regime with regard to the objective of the United Nations Framework Convention on Climate Change as encapsulated in article 2 of the Convention. The implications of these experiences for sustainable development in Africa will be discussed, and suggestions for the construction of a post-Kyoto Protocol climate governance framework will be formulated. The Conference will also feature prominent roles for civil society organizations, gender groups, young people and farmers.

On the first day of the Conference, a high-level plenary session will be held during which ministers and prominent experts will discuss the main theme and set the tone for the rest of the Conference. This session will be followed by a number of speeches introducing the plenary discussions on each sub-theme. Participants will have the opportunity to engage with the panellists and presenters to further explore the points raised in the presentations.

Renewable energy is part of the answer to power the needs of the world's poor, and a prerequisite for rural development. In general, rural areas offer abundant renewable energy resources. To provide access to sustainable electricity and services, different types of renewable energies (e.g. biomass, small hydro, small wind and solar) and technologies can be used or combined to best address local needs. Renewable energy solutions should become a key element of rural electrification plans in developing countries, as they can also support local business creation, improve water irrigation and sanitation systems, as well as offer new opportunities for public health, education and gender equality. Investment in renewable energy for rural development has been proven to result in considerable reductions of carbon dioxide emissions.

Trade, Trade-Related Aspects of Intellectual Property Rights (TRIPS) and technology transfer

The United Nations Framework Convention on Climate Change seeks to ensure that climate change does not lead to restrictions on trade and the movement of goods. As stipulated in its article 3, paragraph 5:

The Parties should cooperate to promote a supportive and open international economic system that would lead to sustainable economic growth and development in all Parties, particularly developing country Parties, thus enabling them better to address the problems of climate change. Measures taken to combat climate change, including unilateral ones, should not constitute a means of arbitrary or unjustifiable discrimination or a disguised restriction on international trade.

Climate change programmes and strategies should therefore involve the development and implementation of mechanisms in order to assist developing countries to cope better with global warming. Chief among these should be the transfer, through trade and other mechanisms, of appropriate technologies, particularly in the renewable energy sectors. Article 3, paragraph 2, of the Convention provides that the special needs of the developing countries should be taken into account: *The specific needs and special circumstances of developing country Parties, especially those that are particularly vulnerable to the adverse effects of climate change, and of those Parties, especially developing country Parties, that would have to bear a disproportionate or abnormal burden under the Convention, should be given full consideration.*

However, restrictions such as those imposed by TRIPS, the World Trade Organization and other regulatory mechanisms have not been sufficiently reviewed to allow for easier technology transfers. Some countries such as South Africa have been negotiating technology transfers within the confines of existing international treaties and regulations, and have gained valuable experiences in this regard. It is imperative that developing countries share such experiences in order to enhance technology transfers.

The State and Africa's prospects for sustainable development under climate change

The global nature of the climate challenge and the response to it makes the State a central player in the design and implementation of adaptation responses. The global architecture to manage the climate response, including the financing of climate adaptation and mitigation, creates a complex web of multilateral and bilateral requirements that are dependent on a functional and properly capacitated State, with appropriate national and subnational institutions, to operate effectively. Hence the development of adaptation and mitigation policies and strategies is highly dominated by central State actors. Civil society organizations and local communities have so far played a limited role in the formulation of national climate change adaptation policies and strategies.

Yet by and large the State and State institutions in Africa have limited capacities and are faced with major challenges that undermine the development of innovative mitigation and adaptation responses. The reconstitution of the African State through structural adjustment programmes has meant that for many years the State has progressively withdrawn from even the provision of social services through the privatization of many services such as education, forestry, water and sewage reticulation, energy generation and provision, transportation (including the construction and maintenance of road, rail and shipping infrastructure) and agriculture. All of these are key climate change adaptation sectors. Government institutions are faced with major challenges regarding the development and implementation of adaptation policies and strategies in these and other sectors. These include:

- Weak coordination as a result of conflicting and overlapping mandates
- Dysfunctional arrangements for inter-agency integration
- Over-burden of external (United Nations Framework Convention on Climate Change and donor) reporting requirements and inadequate financing for

A second principle undergirding the United Nations Framework Convention on Climate Change is the precautionary principle. Article 3, paragraph 3, of the Convention states:

The Parties should take precautionary measures to anticipate, prevent or minimize the causes of climate change and mitigate its adverse effects. Where there are threats of serious or irreversible damage, lack of full scientific certainty should not be used as a reason for postponing such measures, taking into account that policies and measures to deal with climate change should be cost-effective so as to ensure global benefits at the lowest possible cost. To achieve this, such policies and measures should take into account different socio-economic contexts, be comprehensive, cover all relevant sources, sinks and reservoirs of greenhouse gases and adaptation, and comprise all economic sectors. Efforts to address climate change may be carried out cooperatively by interested Parties.

In practice, this precautionary principle has been defined in terms of limiting global warming to below 1.5°C. Progressively, however, the discourse in the evolution of the post-Kyoto Protocol framework has begun to define this threshold as 2°C. While the African negotiating position towards the post-Kyoto Protocol framework demands a strong commitment to keep temperature increases below 1.5°C, there has been little or no discussion to inform the apparent upward revision of the threshold temperature of the precautionary principle. This raises several questions that have to be addressed. What has driven this revision? How has it been communicated? What is the understanding of the implications of a 2°C temperature increase on Africa's development potential and sustainability?

A related issue is that of compliance. One of the challenges involved in applying the Convention has been to create an adequate balance between voluntary and compulsory mechanisms to ensure compliance with emission reduction targets, funding for adaptation, and technology investments. The various solutions adopted to undergird climate actions to date reflect a preference for voluntary, market-based mechanisms. The clean development mechanism attracted a lot of interest but limited investment prior to the collapse of carbon markets. The REDD+ mechanism, which not only focuses on reducing emissions from deforestation and forest degradation in developing countries, but also emphasizes the role of conservation, sustainable management of forests and enhancement of forest carbon stocks in reducing emissions, has been seen as a mechanism that will generate both carbon- and non-carbon benefits, although the implementation of REDD+ initiatives suggests that it may have been still-born. Efforts at making certain measures compulsory have alienated leading industrialists and resulted in some of the most influential polluting economies' pulling out of the Kyoto Protocol process. The agreement to be reached at COP 21 will, by all indications, emphasize voluntary emission reduction targets set through the intended nationally determined contributions (INDCs) to emission reductions.

From a cap-and-trade approach to a pledge-and-review process

Global climate governance is shifting from the cap-and-trade approach that characterized the Kyoto Protocol, to a new pledge-and-review process characterized by bottom-up national actions. The Kyoto Protocol was designed as a framework for a collective global climate response. It allocated roles and responsibilities for the climate response based on the principles of equity and common but differentiated responsibility. Based on the Berlin Mandate, the Kyoto Protocol sought to elaborate policies and measures for Annex I Parties, and to set quantified emission limitation and reduction objectives. The approach entailed allocating Parties into categories (annexes) with different responsibilities, imposing caps on carbon emissions, putting in place institutional and financial mechanisms to support adaptation to climate change, and creating opportunities for trading in carbon credits. The Kyoto Protocol "cap-and-trade" approach has been described by some as a top-down approach.

The Paris approach, which arose out of the nineteenth session of the Conference of the Parties to the United Nations Framework Convention on Climate Change, held in Warsaw, is based on a "pledge-and-review" process in which parties will announce pledges in the form of "intended nationally determined contributions". Each party will then allow a review of these pledges, after which they will be written into a universal agreement as individual commitments. There are concerns that the logic of the pledge-and-review process is flawed. Pledges are unilateral declarations of intention, and the extent to which these can collectively constitute a level of ambition sufficient to control global warming within the 2°C limit is doubtful. In designing the process, negotiators hope that these commitments will be renewed in a cycle intended to "enable an upward spiral of ambition over time".

Climate change and sustainable development in Africa

Rural development, agriculture and resilience

To further elaborate on the principle of supporting sustainable development, article 3, paragraph 4, of the Convention provides that:

The Parties have a right to, and should, promote sustainable development. Policies and measures to protect the climate system against human-induced change should be appropriate for the specific conditions of each Party and should be integrated with national development programmes, taking into account that economic development is essential for adopting measures to address climate change.

Climate change constitutes a significant threat to sustainable development. Over the past decade or so, many African countries have reported impressive economic growth. Although this growth registered could be partly explained by improvements in governance, it has largely been driven by natural resource exploitation by multinationals, together with massive land alienation, and has often been accompanied by growing inequalities and high levels of unemployment. Notwithstanding Africa's commendable growth trajectory, the current pattern of growth is neither inclusive nor sustainable. It has yet to result in the structural transformation of African economies, which continue to be characterized by high levels of dependence on natural resources and exports of primary commodities, predominantly agrarian economies with high levels of rural poverty, and low per capita agricultural output and productivity compared to the global average. Where progress was previously made in the pre-structural adjustment period, these have largely been eroded by the de-industrializing effects of structural adjustment, and the decimation of the public sector and public provision of services. The continent thus continues to grapple with a regressing rural economy, rocketing levels of unemployment, especially among young people, high levels of jobless migration into urban areas and the concomitant feminization of labour especially in the smallholder agricultural sector.

Climate change threatens to exacerbate the challenges of rural development. Erratic rainfall and recurrent droughts are already threatening agricultural production and output and contributing to the migration of young people into urban areas. Flooding and other extreme events are destroying the little infrastructure that exists in both urban and rural areas. The predominantly agrarian nature of African economies and the rural nature of the bulk of its population, coupled with an inordinate dependence on natural resources and low adaptive capacities combine to make them highly vulnerable to climate change. According to the fifth assessment report of the Intergovernmental Panel on Climate Change, a rise in temperature of more than 2°C could exacerbate the existing food deficit and prevent the majority of African countries from attaining their development goals. This makes rural development a key component of sustainable development in Africa.

Rural development entails many transformations. It is premised on the development of new rural relations of production, value chains and value webs, the provision of new and sustainable sources of renewable energy, reforms of land and water rights, the creation of off-farm labour, and so on. Rural economies are poorly integrated into national and global economies because of poor or non-existent infrastructure, including roads, energy, telecommunications and banking. Sustainable rural development entails structural transformations of rural economies which will lead to their diversification beyond agriculture. Major changes in the structure of employment and sources of income for rural populations are required. Evidence indicates that where infrastructure exists, reliance on non-agricultural employment and income for the rural population has been increasing rapidly and is of great importance. The provision of basic physical and social infrastructure as well as the development of skills and entrepreneurship support are urgent priorities. But all are also vulnerable to climate change impacts. The question of how to account for climate change in rural development strategies needs to be resolved.

New opportunities to define an alternative approach to rural development include the expansion of the so-called "new agriculture", industrialization of rural areas, increasing economic integration between rural and urban areas, progress in decentralization of governance, expansion of civil society organizations in rural areas, and increasing demands for environmental services.² Specifically, such opportunities exist in information and communications technology, ecotourism, biotechnologies, environmental

protection and renewable energy generation. Integrated approaches also include promoting linkages among public and private stakeholders, developing rural workers' and entrepreneurs' organizations, encouraging dialogue among them and with authorities, and building the capacities and voice of young people and women, in order to unlock their potential to drive rural innovation.

Given the importance of agriculture for Africa's development, and the dependence of African agriculture on the environment, numerous measures have been designed and implemented to address the adaptation of agriculture to climate change impacts, and also to support innovations that are designed to increase the resilience of the sector to climate change. A series of sessions will discuss climate-resilient agriculture, focusing on climate-smart agriculture, technology and innovation, and national support systems for the adaptation of agricultural systems in Africa. The sessions will attract presentations of lessons learned and best practices from a wide array of measures designed by external agencies such as donor agencies, non-governmental organizations (NGOs) and governments, as well as innovations by farmers and farmers' organizations.

Opportunities for innovative financing

Climate finance has defined previous negotiations relating to the United Nations Framework Convention on Climate Change, and remains a thorny issue in the lead-up to Paris. The link between developed countries; contributions to climate finance and overseas development assistance remains problematic, with limited new funds being dedicated towards the financing of the climate response. Admittedly, some developing countries have made admirable progress in mobilizing domestic funds to finance their own climate policies, but these remain woefully small, reflecting the limited capacity of the least developed countries' economies to internalize the climate response. The debate on financing climate actions cannot be disassociated from the principle of common but differentiated responsibility, and the tensions between the developed and developing countries in this context are based on the perceptions and realities of responsibilities for greenhouse gas emissions.

Renewable energy and sustainable development

Energy is a key factor in development. The limited access to energy characteristic of most of rural Africa accounts in part for the low levels of development of rural economies. An estimated 1.3 billion people in the world do not have access to electricity or remain un-electrified owing to the poor quality of the grid. Of those, 84 per cent live in rural areas. While the Millennium Development Goals integrated energy as a cross-cutting issue critical for the achievement of all other goals, the post-2015 development agenda will include energy access as one of its primary targets, thus acknowledging the crucial importance of energy for development.

For centuries, rural communities have relied solely on traditional biomass energy sources, human and animal power. However, the stock of traditional biomass energy resources is dwindling fast owing to increased pressure from growing populations, but also because of the lack of energy substitutes for traditional energy sources. Renewable energy technologies and other modern energy technologies are almost non-existent in much of rural Africa, thus curtailing development potential. In terms of budgetary allocation, rural energy development has not received a fair share of public investment in comparison to other sectoral investments. There is thus an urgent need for commitment from concerned authorities regarding the use of renewables to spur rural development. This could be done by increasing the currently meagre budget allocation to rural energy; by modifying existing institutional frameworks for rural energy delivery; and by designing and implementing appropriate rural energy initiatives suitable for productive activities and sustainable development. There is a need to develop and strengthen capacities regarding policy, and technical and entrepreneurial approaches to rural energy provision and access in order to promote sustainable rural development.

Rural areas are characterized by their remoteness and low population density. While grid extension is often not feasible, decentralized renewable energy solutions are the better alternative to alleviate energy poverty because:

- They are cost-effective over the system's lifetime.
- They are easy to deploy, install and maintain.
- They can be tailored to demand.