Chapter 30

Africa, Climate Change, and Development: Towards A Strategic Balancing Posture

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Introduction

Over the decades, Africa has been at the receiving end of climate change. In the context of the global fight against climate change, Africa must act given its vulnerability and the threats to its development projections. Understood within the meaning of the United Nations Framework Convention as mutations attributable directly or indirectly to anthropogenic activities modifying the constitution of the global atmosphere and adding to natural climate variability, climate change is a major challenge for the world. No region is spared, least of all Africa, which is more than ever under the influence of extreme climatic phenomena likely to compromise its development trajectory, although it is anchored in a regional vision of economic emergence (AU 2015). This mutation is linked to an additional greenhouse effect caused by a model of planetary society mainly dependent on fossil fuels (Ngono 2022). This warming thus causes a sudden change in the climate which manifests itself through variations in climatic characteristics by establishing extreme phenomena such as rising sea levels, droughts, floods, cyclones, weakening of forests, threats to freshwater resources, agricultural crises, desertification, reduction of biodiversity, and the spread of tropical diseases.

Based on the latest projections from the Intergovernmental Panel on Climate Change (IPCC), Africa is threatened with more pronounced global warming compared to the global average (IPCC 2022). The level of warming is correlated with the extent of extreme phenomena; it is therefore the geographical area which will suffer the most from the horrors of climate change, with various implications. Climate change can reinforce inflationary pressures over a more or less long period. More broadly, extreme climatic phenomena can affect infrastructure, population health, and the productivity of different economic sectors (Trisos *et al* 2022).

When it comes to extreme drought, the regions of North, West, and South Africa are the most exposed. Over the past six decades, for example, Morocco has suffered a 20% decrease in precipitation. The filling rate of dams has also fallen from 60% in 2018 to less than 30% in 2022 (AFD 2022). Algeria and Tunisia are facing the same problem of water scarcity. Added to this water stress is the increase in extreme temperatures. In West Africa in particular, the number of days with a temperature above 40.6°C could double from around 60 to a range of 105 to 196 days by the end of the century, compared to the beginning of the year 2000 (AFD 2022).

According to pessimistic climate scenarios, an increase in land temperature of 4.3°C would be a catastrophe for the countries of the Gulf of Guinea, where the number of days of life-threatening heat is likely to be 250 to 350 days per year. This would constitute immense risks to the rise in sea level. If this rise is currently 20 cm, according to IPCC forecasts we must expect a rise of 50 cm to 1 m between now and 2100 (GIEC 2022). For such a projection, Nigeria, Egypt, Angola, and Mozambique would be subject to both erosion of their coasts but also a risk of flooding. The situation would be particularly worrying in the Nile Delta and Lagos in Nigeria, where there is an increased risk of land subsidence (AFD 2022).

Africa's economic prospects are more threatened than ever by climate risk. This is why Africa must be part of efforts to resolve the climate crisis while ensuring the pursuit of sustainable and

inclusive economic growth. With its potential in renewable energy sources (IRENA 2019), and the infrastructure facilities on which its future economic progress depends not yet built (Birol 2022), it has relatively easy room for manoeuvre to define a societal model that reconciles climate protection and economic expansion. What should be called here the in-between climate-development nexus is therefore a position conceivable by Africa. It should be structured around strong, coherent, and pragmatic African action (Ngono 2022). It is likely to break with the growing emissive dynamics of the last three decades and lay the foundations for a low-carbon and competitive model of society (Jayaram *et al* 2021; WB 2020).

Because of the stakes, it is a question of how Africa can build a model between climate and development. In other words, how can Africa reconcile climate and development imperatives? This chapter is an attempt to address this concern. There is a need, through a geopolitical approach that mobilises economic, political, cultural, or geographical factors, to understand the foundations of such an approach (Moreau-Defarges 2002). It presents Africa as a single entity composed of states with specific realities managed by common institutions within the framework of a Pan-Africanism of integration.

Under a constructivist reading of the resolution of the climate crisis, it first analyses Africa and the double interest of safeguarding the climate and continuing its development trajectory. Second, it sketches the operationalisation of an in-between climate development as a question of multiscale harmonisation. It examines and analyses four themes in the chapter, namely: the foundation of an African posture between climate and development, the necessary reconciliation between climate imperatives and development in Africa, the multisectoral organisation of a climate-development policy in Africa, and the consolidation of the climate-development approach at the sub-regional and national levels.

Africa and the Dual Interest of Safeguarding the Climate and Pursuing its Development Trajectory

In a context marked by climate change and a strong regional desire to improve the lives of a population that grows exponentially, Africa is faced with a dual interest. It is then a question of how it can contribute to the protection of the climate while pursuing a dynamic of economic progress. This strategic posture is part of the climate-development question, noting the threats that the disruption of climatic changes represents for the African continent.

Foundation of an African Posture of Climate-development Nexus

The in-between posture is timely in the face of the threat posed by high-warming scenarios to the African continent. It is based on Africa's vulnerabilities to climate change and its development trajectory, more than ever under the influence of its impacts. This section seeks to unravel the two-part question through the lens of two themes: the vulnerability of the African continent to climate change, and a regional development trajectory under the influence of climate risks.

The Vulnerability of the African Continent to Climate Change

The vulnerability of geographical areas depends on climate change, their sensitivity, and their capacity for resilience. This sensitivity is very high in Africa insofar as a large part of the activities on which people depend are backed by natural resources which themselves depend on the state of the climate. This is the specific case of agricultural and coastal resources from which African populations derive most of their livelihoods (Bank of France 2020). By way of illustration, seven out of ten Africans survive on agriculture, while coastal communities live mainly from fishing (AfDB 2015). While some regions of the world can better respond to some of the impacts of climate change, Africa remains in a state of worrying exposure. This situation is because the adaptive capacity of territories depends on a set of factors asymmetrically distributed throughout the world. Thus,

the wealth of states, their level of technological advancement, the information at their disposal, the skills they have, and the accessibility to financial resources determine their response capacities (Francois & Taabni 2012).

Given these determinants, it is difficult for African countries, as they stand, to cope with climate change (UNESCO 2014). They have fewer resilience factors and make the continent as a whole the most vulnerable geographical area. Of the ten countries in the world considered to be the most vulnerable, seven are from Africa. These include the Central African Republic, South Sudan, Sierra Leone, Chad, Ethiopia, Nigeria, and Eritrea (SoAR 2018). Climate change is already manifesting itself in Africa with gravity and will continue to exert pressure on water resources, disrupting the renewal of underground resources, food security (by reducing agricultural yields), cross-border security (by transnationalising water stress and climate migration), and public health (by exposing populations to infectious diseases and displacing malarial areas) (AfDB 2015). Because of the extreme events, between 2.6 million and 3.4 million people had to move to Sub-Saharan Africa from 2018 to 2019.

This migratory dynamic could affect 17 million to 40 million by 2050 for an average temperature increase of 1.7°C (Trisos *et al* 2022). In terms of food security, Africa is already taking a hit, with agricultural productivity that has declined by 34% since 1961 (Trisos *et al* 2022). This downward trend could accelerate dangerously, with warming between 1.5°C and 2°C, while 10 million people will be exposed to infectious diseases at the same temperatures. Over the next two decades, for example, it is estimated that climate change will cause around 250 000 additional deaths per year. This situation will be mainly due to food insecurity and related toxic infections, malaria, an increase in zoonoses, water-borne or vector-borne diseases, as well as heat-related stress (WHO 2021).

Africa is therefore highly exposed to climate risk. Large-scale droughts, floods, and their human and material tolls, considered today as episodic climatic extremes, could become the daily lives of future generations (AfDB 2015). Indeed, the trend

of precipitation in a year could vary widely from one sub-region to another. This worrying dynamic suggests increases in rainfall in East Africa, while the Mediterranean part of the continent, the western façade of southern Africa, and the north of the Sahara may face a decrease in rainfall. Highly urbanised coastal areas will be particularly vulnerable to the effects of rising water levels.

By 2030, between 108 million and 116 million people on the African continent will be exposed to rising water levels, twice as many as in 2000 (Trisos *et al* 2022). Coastal erosion would lead to the weakening of human activities rooted in ancestral practices (Bernoux & Mazurek 2015). The practice of agriculture carried out by rural areas on the African continent, as well as traditional medicine – which is based on ancient, local know-how and a particular relationship with the environment – will be impacted (Benoit 2008).

The great concern is that these impacts will not occur separately or in isolation. They will tend to reinforce each other by creating very precarious living conditions through interaction (AfDB 2015). Acting cumulatively, they are likely to undermine the development efforts undertaken so far by widening the gap between Africa and other regions of the world. Although climate change is a global phenomenon, its adverse effects are most acutely felt by developing countries in general and Africa in particular. Their strong dependence on natural resources and their limited capacity to cope with climate variability and extreme weather phenomena are the main reasons for this (Trisos *et al* 2022).

A Regional Development Trajectory under the Influence of Climate Risks

Climate change is already taking a definite hold on African economies. They influence most of the continent's productive sectors by eroding their performance. This negative impact on economic determinants is expected to increase with high-warming scenarios. Regardless of the rise in global surface temperature, the continent would face significant development risks (ECA 2017). It sets out a set of additional threats and

constraints to Africa's economic expansion in terms of security issues, scarcity of natural resources, and widening inequalities.

If the related impacts are not internalised in regional planning, they will likely jeopardise Africa's development trajectory. These impacts will are likely to reduce economic growth and widen inequalities within the continent, as is already the case. It was estimated that between 1991 and 2010, the gross domestic product (GDP) *per capita* in Africa was 13.6% lower than it should have been without climate change (Trisos *et al* 2022). This loss of growth is worrying for a continent that aspires to lift an important part of its population out of poverty, with an estimated 490 million people living below the poverty line in 2021 (UNCTAD 2021). For a decade, the prowess of agriculture, tourism, manufacturing, and infrastructure has been significantly reduced in their contribution to regional GDP. In a longer time range, from 1974 to 2008, maize and wheat yields declined 5.8% to 2.3% respectively in Sub-Saharan Africa (Trisos *et al* 2022).

These losses could be even greater in the coming years, with high-warming scenarios. For a warming level of 2°C, in the livestock sector, net rangeland productivity is expected to decrease by nearly 42% in West Africa by 2050, with vector-borne diseases and recurrent severe heat stress durations (Trisos *et al* 2022). In the fisheries sector, which is the main source of protein for 200 million people and the livelihood of about 12.3 million people, the threat is also of concern. A warming of 1.5°C would cause a decrease in the fishing potential of about 3% to 41% between 2081 and 2100, and 12% to 69% for a warming of 4.3°C for the same period regarding the level from 1986 to 2005. Tropical countries would be the most affected, with obvious socio-economic consequences.

Climate change has the potential to create the conditions for endemic poverty in Africa. For example, concerning the standard of living of African populations, high-warming scenarios will lead to a decrease in GDP *per capita* of about 15% for West and East Africa, about 10% for North and Southern Africa, and 5% for Central Africa by 2050 (ECA 2017). Based on statistical projections, a warming of 2.3°C would cause a 12% decrease in GDP in Sub-

Saharan Africa by 2050 (Baarsch *et al* 2020) and an 80% decrease in GDP above 4°C in 2100 (Burke *et al* 2015b). By 2030, it is estimated that nearly 40 million Africans will find themselves in extreme poverty because of climate change, adding to the high number of poor people on the continent.

The labour force in sensitive sectors – such as agriculture, which is 90% dependent on rainfall – is under serious threat, as is the informal sector, which accounts for 85.8% of total employment in Africa (71.9%, excluding the agricultural sector) (Trisos *et al* 2022). Besides its other values, rainfall contributes to the vitality of certain socio-economic activities and the wellbeing of the populations. While the entire population may be affected by the effects of climatic change, like drought, vulnerable groups in society (including women, young and old people who have found refuge in various survival professions) will be more affected. These groups are usually based in unsafe environments, operating mainly in the construction, transport, housework, and street sales sectors (Trisos *et al* 2022).

In general, a future with additional warming will negatively impact regional economic growth and jeopardise the continent's development efforts (Acevedo *et al* 2017). Moreover, the need for adaptation would be so great that it would divert the continent from its original strategic vision of long-term development. These projections require immediate and ambitious action to avoid reaching the point of no return. They invite Africa to further integrate the climate variable into its development trajectory.

The 'Climate-development' in-between: The Quest for the Construction of the African Model of Society

The climate issue is more important than ever in the context of exploding greenhouse gas (GHG) emissions. GHG is a concern that influences all the economies of the world in general and African economies in particular in terms of impacts and new development dynamics that it imposes. It is, therefore, at the heart of contemporary issues: an inescapable reality around which country strategies are to be structured. Africa is an ecological power in the geopolitics of carbon with a low GHG emission rate representing

4% of global emissions (Ngono 2022), and a sequestration capacity now surpassing that of Amazonian forest massifs (Hubau *et al* 2020). It becomes vital to make efforts around mitigation. There is an urgent need for action if the goal of addressing climate change is to keep warming below 2°C by 2100 according to the Paris Agreement, knowing that since the pre-industrial era, the average temperature at the surface of the globe has increased by about 1.2 °C (IPCC 2019).

According to the optimistic scenarios of the Intergovernmental Panel on Climate Change, the challenge is not the least. It requires a significant reduction in global emissions (between 40% and 70% by 2050), using the 2010 emission level to establish a model of an emission-free society at the end of the century (IPCC 2019). This is the responsibility of all regions of the world, regardless of their level of emissions. There is a high-carbon energy mix based mainly on gas, coal, and oil, at 40%, 21%, and 19% (IEA 2018). The continent's GHG emissions have almost doubled since 1990 (World Bank 2020); thus, the African continent is set to begin its greening while developing.

The continent's infrastructure deficit, which amounts to between 130 and 170 billion dollars per year and the development prospects that will logically consume energy, should be part of a break with the emissive dynamics observed in recent decades (AfDB 2018). It is a question of preventing the development trajectory dear to the continent from being at the expense of the climate and *vice versa*. In other words, in the face of the climate emergency, Africa must continue to grow economically in a certain sobriety in carbon and be able to meet the needs of a population – expected to double by 2050 to reach 2.5 billion inhabitants (Magrin & Ninot 2018).

This perspective is realistic insofar as Africa is a continent under construction. It is up to its leaders to make strategic choices to reconcile industrialisation and green growth (Jayaram *et al* 2021). If half of the regional industrial infrastructure responsible for the continent's future economic expansion has not yet been built (Jayaram *et al* 2021), then there is relatively easy room for manoeuvre for a climate-development orientation (Ngono 2022).

Unlike some industrialised regions of the world, for which the ecological transition is understood as the deconstruction of a productive model that has proven its worth, the industrialisation of Africa can be done with a technological leap favouring solutions with a low carbon footprint, without significant dismantling of its existing infrastructure park. In particular, it would make it possible to replace the dependence on fossil fuels with a gradual and decisive shift towards renewable energy sources, whose potential on the African continent is the largest in the world (IRENA 2019b).

A duty to act on climate and development means that the decarbonisation process must be in line with the economic growth and industrialisation of the African continent. Building a climate-development gap means moving towards a strong, competitive, and resilient African economy, part of global GHG mitigation efforts. It becomes necessary to create the conditions for such structural transformation. This should avoid risky transpositions, and be executed rationally and coherently. It would be appropriate to take the full measure of regional issues by crossing the needs, the mobilisable means, and the development trajectory of the African continent in the light of "The Africa we want"[1] (AUC 2015).

Priority Sectors for Restructuring a Regional In-between Development Model

Climate change does not leave much choice and requires a transformation of the current model of society. In this context, Africa is the most vulnerable and economically backward continent. It is therefore more solicited by challenges that are more than ever linked. Indeed, the consequences of climate change are a source of various fragility. They are already amplifying in some territories the socio-economic, political, and ecological difficulties facing the African continent. This situation should lead it to increase its ambitions and define an in-between position that protects it from climate risks and promotes its

1 "The Africa We Want" is linked to Agenda 2063 – the long-term development blueprint of the African Union which was developed between 2013 and 2015 through an inclusive and consultative process culminating with seven aspirations.

economic emancipation. This positioning should be accompanied by an ability to rethink its development trajectory and involves a review of production and consumption processes to align them with sustainability requirements.

By questioning the various emissive sectors and restructuring them, issues around climate change place the continent at a crossroads by allowing it to initiate an economic and ecological transition (Jayaram *et al* 2021). Through this climate-development question, the energy and manufacturing sectors are called upon to get a makeover. On the energy issue, Africa has a comparative advantage over the rest of the world in greening by hosting the most significant renewable energy resources. For illustration, Central Africa is renowned for its hydraulic potential; East Africa, for its part, spreads its geothermal potential along the Rift Valley; North and West Africa stand out for their strengths in terms of solar energy, while coastal areas are characterised by their wind potential (IRENA 2019b).

By choosing renewable energies, Africa could record fewer constraints on energy transition and establish global leadership on the issue. Projections by the International Renewable Energy Agency (IRENA n.d.), as well as those of the International Energy Agency (IEA n.d.), share the optimism that Africa will be nearly 70% powered by renewable energies in a sustainable transition scenario by 2030 (Birol 2022).

The low carbon content in the energy sector is expected to be consistent with the 7th Sustainable Development Goal (SDG7) and the regional development goals. The imperative of energy transition should then meet that of development in a logic that fills the optimal conditions at different stages and times. This means that Africa should move towards a volume of substantial investments estimated at more than $190 billion per year in the energy sector between 2026 and 2030, two-thirds of which would be based on renewable energies (Birol 2022). The share of investment in the projected energy sector on regional GDP would reach 6.1% in a scenario of sustainable transition of the continent, a level slightly above the average of emerging and developing economies (Birol 2022). To prevent any challenges, capital

markets and international and local financial institutions must be mobilised by creating an adequate investment framework for Africa's energy transition (Berahab 2019). The AU should be alert to this responsibility and respond effectively.

The African manufacturing sector accounts for about 40% of regional emissions. These may double in the absence of decarbonisation efforts. Although it is low in emissions compared to other regions, the status quo cannot be maintained. Under this assumption, African emissions would increase from 440 megatonnes of carbon dioxide equivalent (Mt eq. CO2) currently, to 830 Mt eq. CO2 by 2050 (Jayaram *et al* 2021). This dynamic would have far-reaching consequences for African economies for two main reasons. On the one hand, it would be rowing against the current global emission reduction objectives; and on the other hand, it would be disadvantageous for the continent in terms of competitiveness when international markets are gradually integrating sustainability requirements in terms of standards to be respected (Jayaram *et al* 2021).

This sector must then be part of a dynamic of green growth. It could develop by keeping a low-carbon profile while consolidating its competitiveness on a global scale. This posture assumes that African countries align their nationally determined contribution (NDC) commitments with the global average. This ambition is followed by additional public policies and private actions to reduce greenhouse gas (GHG) emissions. In this logic, the Pan-African dynamic based on the Common African Vision of climate change, the AU Action Plan for Green Recovery, and the recent institution of African climate summits take on their full meaning to raise the African climate ambition and significantly influence international governance. In this proposition, the African manufacturing industry would tend towards a reduction in its emissions of 56% or even towards carbon neutrality in 2050 compared to 2018 (Jayaram *et al* 2021). However, this dynamic of low-carbon development driven towards virtuous neutrality is expensive. It would require a colossal additional investment of nearly $2 trillion in the energy and industrial sectors by 2050 (Jayaram *et al* 2021).

Operationalisation of a 'Climate-Development' In-between: A Question of Multi-scale Harmonisation

The structuring of this model of society with the task of preserving both the climate and the development trajectory of Africa requires the consolidation of a Pan-African vision on the issue while harmonising the scales of governance. That is why it should be coherent and co-ordinated at all levels.

The multiscale organisation is expected to be strengthened at the regional level by considering the specificities of the different geographical areas of the continent and being the subject of sub-regional and national variations. This sub-section will be approached from two themes: Towards strengthening a Pan-African climate-development vision, and the climate-development question of harmonising actions at different levels of governance.

Towards the Strengthening of a Pan-African Climate-development Vision

The Africa Progress Panel's report, 'Energy, People, and Planet: Seizing Africa's Energy and Climate Opportunities', shows that the continent does not have to choose between economic growth and a low-emissive development model (Africa Progress Panel 2015). On the contrary, it can very well reconcile these realities, which are far from ambivalent, and define an ambitious climate-development model. By favouring an offensive approach to ecological transition and intensifying the necessary investments, Africa should succeed in moving the lines. This structural transformation will be primarily the result of a regional vision and the means that Africa will want to give itself to achieve such objectives. This vision should become Africa's societal choice, given the sustainability requirements imposed by climate change, the continent's potential for transition, and its development trajectory (Ngono 2022).

The challenge of a united Africa in this in-between is to be a locomotive in a context of international climate governance renowned for its complexity. If the climate is more than a major geopolitical issue (Gemenne 2013), Africa must act and address

climate challenge for its interests. Alongside the United States and Europe, various emerging powers often prioritise global economic leadership, focusing on interests that are frequently disconnected from the expectations of an Africa increasingly vulnerable to the impacts of climate change (Aykut & Dahan 2015).

It must be assumed that this geopolitics is not devoid of the expression of state rationalities and that even the evocation of a certain international solidarity cannot be enough to put on the back burner. The expectations of financial and technological transfers can be attractive, but should not ignore the fact that a reconfiguration of the world can be made through climatic changes. This is why African action, caught in this in-between, must be structured and consolidated at the regional level in a contextualised way by freeing itself from external prescriptions. In other words, Africa should build a virtuous and sustainable model of society in its image. This is why it is necessary to be avant-garde and to initiate a proposal that ensures the preservation of the interests of the continent in the dynamic of transition as the world continues to react to climate change. The AU should position itself strategically to be the most potent African agency in the climate change conversation, both within and outside Africa.

Africa's transition policy should then be clearer, highlighting the actions to be taken to combat climate change while being part of the regional development agenda. It should strengthen regional initiatives with clear and quantified objectives. This is the direction taken, for example, by the African climate summits and the group of African negotiators working collegially under regional co-ordination, but we still need to go further by further harmonising African positions towards an African climate plan.

There is more talk of operationalising this transition with a strategy for mobilising funds and allocating them in the short, medium, and long term. This strategy should draw from the climate plans of other regions for better results on a global scale (Mohohlo & Camdessus 2015). It should then follow the logic of burden-sharing, defined by the new universality of responsibilities that recommends the efforts of all parties to

the United Nations Framework Convention on Climate Change (UNFCCC), in line with the spirit of the Paris Agreement. This Pan-African vision must therefore be based on the African Common Vision on Climate Change and the African Union's Action Plan for Green Recovery for the 2021-2027 time range. However, it must go further. Indeed, if five areas of intervention are quite clear and justified in the Action Plan for Green Recovery and avenues for mobilising funds are mentioned (AU2021), the AU must evaluate the cost of such a vision over time, to indicate its sequencing and the possible evaluation and adjustment periods.

It is therefore a proactive action freed from ideological apprehensions about sustainable development in Africa. Thus, in addition to the dynamic that Africa should stimulate by its means, external support ramps should be established on the financial and technological aspects, with allocation timetables that will make it possible to easily structure African action. This co-operation should lead to political convergences between the different geographical areas. It is timely, as the climate is affected on a global scale, with unevenly distributed impacts that make Africa the most vulnerable space (CARE International 2015).

'Climate-development' Question of Harmonising Actions at Different Levels of Governance

Addressing the 'climate-development' in-between requires well-planned and executed harmonising actions at different levels of governance. To move towards an in-between position is to transform the African continent structurally and gradually over a long-time horizon at all levels. The major challenge facing leaders – national and regional – is the ability to pursue public policies that have a grip on time. In other words, a sustainable economic transition for Africa presupposes that the long-term vision is based on multiscale short- and medium-term actions that consolidate it (Ngono 2022). This must be thought of at the regional level and declined at the sub-regional and national levels. They would provide a roadmap for the greening of the African economy by addressing issues of mitigation, adaptation, and competitiveness at different levels of governance. It could take the

meaning of a plan for carbon neutrality and economic emergence based on Agenda 2063.

Even with emissions approaching 4% of global volume, Africa, with its current development projections and climate commitments, remains below the expectations of the Paris Agreement (Jayaram *et al* 2021). An ambitious in-between on climate and development issues should therefore take shape to lay the foundations for stronger action, which will also increase African demands on the other parties to implement the global framework convention. Once this strategic vision is decided in coherence with Agenda 2063 and the spirit of the Lagos Plan of Action, the sub-regional entities in the continent will be able to rely on it to define general and sectoral community policies that member countries will have to operationalise. Africa's disappointing performance in clean development mechanisms and their unequal distribution within the continent legitimise this harmonisation of scales of intervention by limiting intra-African competition and promoting co-operation between sub-regions and countries (Alioui 2011). Indeed, some territories need more urgent action than others, but cannot set up attractive projects or are originally less attractive according to international standards and rankings; they are harmed by international financing and climate governance instruments (Alioui 2011).

It then becomes appropriate, through an African policy that would operate in a staircase, to start from a regional vision with broad lines of intervention, to develop sub-regional policies defining community actions that are themselves part of the regional vision, and to set up national public policies that implement sub-regional policy at their level. For fair and equitable continental action, priority areas for intervention should be defined. This logic would be appropriate to situate all African countries in a dynamic of in-between. It should ensure that the specificities of the different territories are considered to move the continent towards harmonious development. It would also allow Africa to be stronger on the international scene on issues of climate and economic governance, since it operates as a block and in a structured way.

Strengthening the Climate-development Approach at the Sub-regional and National Levels

The operationalisation of the climate-development approach at the sub-regional and national levels should follow a staircase logic by drawing from the Pan-African vision and materialising it at the lower levels of governance.

Climate-development Approach at Sub-regional Levels

At the sub-regional levels, climate change policies are not new. These regional economic commissions (RECs), with an economic and monetary vocation, initially having no line of ecological public policy, have gradually embarked on these concerns in line with the ambition of the 1992 Earth Summit. Over time, they have gained importance at the level of this stratum of governance by being the subject of abundant codification. The measures that even have binding force emanating from certain bodies testify to the place taken by environmental issues within these sub-regional organisations (Ouro-Bodi 2014). It is therefore quite logical that mitigation initiatives have been particularly seized by these entities. Many are codifying them by putting in place a range of legal instruments that are slow to root out the continent of laborious energy integration frameworks. On the other hand, forest governance has been further consolidated in recent years with a fruitful concerted management of the forests of the Congo Basin (Karsenty 2020). It has enabled the forest massifs of Central Africa to become the first planetary lung in terms of carbon sequestration (Hubau *et al* 2020)

Concerning the energy issue approached through the prism of preserving the environment, this has been dealt with for decades in connection with economic development, which remains an imperative for the continent. Thus, it has always been a question of favouring an integrated approach in which the triple concern for environment, energy, and development is maintained. According to these initiatives, energy co-operation, environmental protection, and economic development must be a mutually reinforcing foundation (Ouro-Bodi 2014). Since energy occupies a central place in economic development for

many common policies, climate concerns have had no choice but to follow this logic. In other words, they have been addressed following the constitutions and other legal texts that recall the need to co-ordinate and/or harmonise energy-related policies with a view to the development of sub-regions.

To this end, the West African Economic and Monetary Union (WAEMU), in consolidating its integration, has set itself the objective in its Article 4(d) of co-ordinating national sectoral policies in the field of energy. It is the same spirit that guides the member countries of the Economic Community of West African States (ECOWAS) that have agreed in Article 28 of the revised ECOWAS Treaty to harmonise their policies in the fields of energy. Reference may also be made to Article 13A of the Agreement Establishing the Inter-Governmental Authority on Development (IGAD), which recommends that parties co-operate in the sustainable use and development of energy resources in the sub-region.

In North Africa, a case can be made of the 1968 Algiers Convention, which was revised in 2002 and inspired the member countries of the East African Community (EAC) to devote the exploitation of energy resources without losing sight of environmental protection. This provision is responsible for the shift towards renewable energy in East Africa. In Central Africa, energy issues are linked to two visions: a first of a general nature and a second of a specific nature. The first defines a strategy based on the Central African Energy Pool (CAEP) set up in 2003, while the second focuses on a system of green economy and renewable energies, adopted in 2012 by the ministers of the Economic Community of Central African States (ECCAS) in charge of ecology, natural resources, and sustainable development at the Conference on the Green Economy (CEEAC & CEMAC 2014).

The African sub-regional order is then addressed on these issues, even if the African productive sector is not yet the subject of special treatment in this desire for greening. By combining development and the environment in its various legal provisions, it already shines through this in-between, which enshrines that the ambitions of development and preservation of

the environment are not contradictory. However, these various provisions are not always accompanied by effective enforcement. It is then necessary to review this aspect for coherence between the texts and the actions in a position of preservation of the climate and pursuit of economic progress. This dynamic should be part of a regional vision that sets the course for African action between climate and development.

Application of the Climate-development Approach at National Levels

At the national level, African countries are gradually mobilising their capacity to protect the climate. Thus, policies are being pursued to contain global warming and to prepare territories for adaptation. In terms of mitigation, decarburisation projects are more focused on the energy sectors and forest management. On these issues, some countries have developed ambitious strategies, while others face the problem of defining clear strategies to position economies toward sustainable dynamics.

Some countries on the continent – such as Kenya, Ethiopia, and Namibia – are doing well in the green shift through their potentialities and vision, and are becoming global references in public policies in favour of sustainable development (Birol 2022). This is the case, for example, in East African countries that exploit the geothermal potential of the Rift Valley and other renewable energy sources. Central African countries are exploiting their hydraulic potential and present low-carbon energy mixes while playing an active role in carbon sequestration through their forest massifs (Ngono 2022). The North and Southern African countries are also embarking on processes to green their energetic mix, which is mainly carbon-based. The same dynamic can be observed in West Africa and testifies to the fact that many African countries want to embark on economic models that are not necessarily carbon-intensive.

However, while these initiatives are legion and encouraging, many are not yet part of the logic of structural transformation. They are more isolated and punctual initiatives that are not part of a reformist policy (Ngono 2022). Unlike some East African

countries that are moving towards carbon neutrality in the next decades with clear strategies, other African countries still seem concerned about trade-offs between fossil fuels and renewable energy sources (Berahab 2019). Even if these trade-offs are understandable from the point of view of countries' economic competitiveness, a well-thought-out climate-development initiative is also capable of guaranteeing sustainable and inclusive economic growth that contributes to the resolution of the climate crisis. In other words, national initiatives that meet sustainability requirements should leave the framework of spontaneous sectoral policies. The in-between that African countries should be moving towards is by no means a fad. Such a posture would only be an institutional 'greenwashing' without any real impact on contemporary and future issues. Rather, it should be rooted in a real and proactive political ambition.

Conclusion

The convergence between climate and development have become a challenge for an African continent that has all the potential to start a green shift. It is part of a context directed at addressing climate change through global governance that is structured around the objectives of limiting GHG emissions. For Africa, which is low in emissions and economically lagging behind the rest of the world, it is a question of building and consolidating a model of society that reconciles economic development and climate preservation. It is based on the vulnerability of the African continent to climate change, and its development trajectory threatened by climate risks. It is envisaged through a structural transformation of the continent's highly emissive sectors and a strong and pragmatic regional vision at sub-regional and national levels.

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