

## **PERCEPTION OF ENVIRONMENTAL MANAGEMENT IN SUB-SAHARAN AFRICA**

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### **ABSTRACT**

This paper analyzes the various environmental projects decided in recent years in Africa, with the objectives of taking into account the requirements of sustainable development (SD) which are now essential. Through a documentary analysis and field surveys in Mali, with structures working in the field of environmental management, we answer the main question concerning the mechanisms for preserving this public good. Our results highlight that, despite the justification of this politically encouraging and desired ambition for a dynamic revival in our countries, however, concerns exist in practice.

**Keywords:** Environment, Africa, Energy, Renewable resources, Sustainable development.

**Code JLE:** Q 50 ; O55 ; Q4 ; Q20 ; Q01.

### **I. INTRODUCTION**

At the international level, the Kyoto Protocol (Japan) signed in 1997 but which came into force only 8 years later, serves as a benchmark in the fight against global warming, which is one of the significant effects of the deterioration of the environment<sup>1</sup>. This latter is the United Nations Framework Convention on Climate Change, to which 84 states were signatories. The World Health Organization (WHO) estimates in September 2018 that 90% of the world's inhabitants breathe polluted air; this situation is responsible for 7 million deaths per year, including 600,000 children. This effect must appeal to all human beings, whatever their rank in society. The WHO director-general believes that air pollution is the new tobacco. Experts say pregnant women exposed to polluted air are more likely to give birth prematurely; delays in the neurological and cognitive development of children are also inherent in this planetary danger.

<sup>1</sup>Boisson de Chazournes L, (2000), « De Tokyo à la Haie en passant par Buenos aires et Bonn : la régulation de l'effet de serre aux forceps », *Annuaire français de relations internationales*, vol. 1, p.716

Until the early 2000s, leaders and public opinion in African countries did not give prominence to issues related to environmental management and protection. This situation was contrary to that which occurred in the member countries of the European Union (EU) where we noted, a consideration of its major issues well before this period. The latter has stepped up initiatives to protect the environment. A world first in June 2015, the Dutch courts condemned the government for the benefit of the Urgenda foundation and the 886 Dutch citizens, to take more ambitious targets for reducing greenhouse gas emissions. The different EU countries have adapted legislative measures to set the standards to be respected, a beneficial situation to encourage and support community initiatives, things that are very complex to implement in African countries.

We admit that the projects which aim to make it easy to continue the above objectives, through community funding, have been more limited in Africa with regard to the amounts, and above all have remained dispersed through the support of the various partners and their requirements. However, if we take into account the costs generated for the transition to a green economy, which concern or will concern the various workers and companies in various sectors such as agriculture, industry, fishing, etc., it is essential to provide the African countries or the different sub-regional organizations of this continent of an instrument of financial support. This is what the creation of an African Environment Adaptation Fund would enable, to finance local projects, which aim to help workers and companies subject to the negative externalities of environmental policies. Aware that environmental issues must take into account, those of economics and political economy very complex theoretically and on a practical level, because justice between the generations, the use and the preservation of public goods, the taking into account of externalities at national and international level are major issues.

In 2017, the African Union (AU) underlines that the African continent abounds in wealth, by its mines, its fishery resources and its immense arable areas. The youth of its population is an asset and a powerful lever for growth. Our young people, and rightly so, no longer accept and no longer support the paradox of juxtaposing this abundance of resources and our destitution. Among these sources of anxiety is the poverty that arises from the lack of socio-economic prospects, a situation worsened by environmental degradation and climate change, as well as by governance choices. Political will plays a crucial role in the design and implementation of beneficial strategies to facilitate the achievement of objectives.

Through a documentary and field analysis, we present the different mechanisms in experimentation or implementation phase in Africa with or without the support of the EU in the first part. The implications of the measures adopted in African countries through its own initiatives and those initiated by the EU are analyzed in the second part.

## **II. THE NEED TO CONSIDER ENVIRONMENTAL ISSUES IN AFRICA**

Taking into account aspects having a direct or indirect impact on sustainable development becomes a necessity, in all decisions concerning the life of a nation according to Berger et al., (2005)<sup>2</sup>. It is possible to identify three main threats to the planet, and therefore to the countries, induced by the consequences of human activities, namely global warming, loss of biodiversity and pollution of natural environments (air, water and ground).

### **1. The European Union as a reference space**

The EU -if we take into account the positions taken by public authorities in China and the United States (recent withdrawal from the climate agreement) in relation to environmental issues- is undoubtedly the place of globalization where consensus is better developed, shared and the most advanced means of collective action, giving it exemplary legitimacy for the rest of the world. The EU is therefore at the forefront of efforts to reduce CO<sub>2</sub> emissions despite the reluctance of its members from Eastern Europe to make concrete commitments, including in terms of financing clean development in developing countries (France considers within the framework of the "Climate Justice" project).

In practice, the vast majority of African countries benefit from the support of the EU as an entity and the individual assistance of its member countries, for management more suited to environmental issues. Sweden supports Mali in taking into account the problems mentioned above. Toussant (2018), president of "Notre Affaire à Tous", emphasizes that today the citizen revolt wants to go further by forcing the French government to respect its own law. In the EU, we hope to reduce greenhouse gas (GHG) emissions by 14% in 2020 compared to 2005. For De Ruyg (2018), we are not going to a court reduce GHGs, but through collective consultation on future choices for accommodation, heating, travel, etc. which will start in 2019. Brazil, one of the emerging economic powers, including China and India, is the first country in this category to initiate concrete GHG reduction processes.

On the continent, the African Water Facility (AWF) frequently supports public authorities through donations. According to the Ministry of the Environment, Sanitation and Sustainable Development (2018) of Mali, phase II of the Niger Delta Interior Sustainable Development Program (PDD-DIN), covering the period 2017-2022, is ensured by funding from the Kingdom of Sweden. France, as well as Germany and Belgium also intervene in Mali and in the other countries of the continent like Niger, Togo, Cameroon, Senegal etc. The Global Environment Facility (GEF) is also among the actors who finance projects useful for populations by endowing

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<sup>2</sup>Arnaud. E ; Berger. A ; DE Perthuis. C (2005), *Le développement durable; repères pratiques*, édition Nathan, pp: 159.

Mali with \$ 10 million over the 2019-2023 period. This fund constitutes a mechanism that finances international conventions.

## **2. The inherent difficulties in human pressure on the environment in Africa**

The profound environmental changes observed in the world, in particular in Africa, are occurring at a faster rate than expected, and require the taking of immediate corrective measures on the part of the authorities and the populations to reverse the trend. This is what emerges from the Assessment for Africa of the 6th report on the future of the global environment published by the United Nations Environment Program, and which serves as a reference for studies on the state of the global environment. In this report, the experts have proposed avenues for preserving and enhancing Africa's natural capital with a view to achieving the objectives of Agenda 2063 and the Agenda 2030 for sustainable development.

The positive and rapid evolution of the demography in Africa, generates the increase in needs compared to the use of the various resources and in particular that in water. More than half of the population in sub-Saharan Africa still does not have access to improved sanitation, compared to 90% of coverage in North Africa, with a big difference between urban and rural areas<sup>3</sup>. We also report the poor quality of the air on the continent, which is explained by air pollution, both indoors and outdoors, often generating major problems, both for the environment and for human health.

Poaching has reached critical levels to fuel the illegal wildlife trade. This criminal behavior perpetuating the illegal trade in wild flora and fauna is a global problem, but it takes on a very serious dimension, entailing economic and security risks for Africa. This activity damages ecosystems and livelihoods in rural areas and undoubtedly threatens national and regional stability.

Land degradation is of great concern to the planet, as Africa is the second largest continent after Asia with a land area of 30 million square kilometers. However, we retain that these lands constitute the most precious asset of this zone, to ensure food self-sufficiency, nutritional health and socio-economic development. However, despite its undoubted importance, some 500,000 square kilometers of land are degraded by soil erosion, salinization, pollution and deforestation. This land degradation can no doubt have negative externalities on agricultural productivity, nutrition and the health of the population.

We stress that environmental degradation is not inevitable. Provided that significant measures are taken to halt the process, from the West African coast to the Congolese forests. It is therefore

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<sup>3</sup><https://www.francophonie.org/Une-version-en-francais-du-rapport.html>, consulté le 14 janvier 2019.

possible to mobilize credible partners such as the EU, France, Sweden and other countries aware of the challenges, to support investments to accelerate the deployment of clean energy. We agree with Sokona (2019<sup>4</sup>), that Africa has not yet defined an energy model for its development. This is an advantage because we can invest in completely new things and benefit from the best performing and least polluting technologies.

The different approaches adopted are discussed through the analysis below, in this part of the world.

### **III. EXPERIENCES ADOPTED IN AFRICAN COUNTRIES**

It is therefore necessary for African governments to adopt an approach for the sustainable management of natural capital through the diversification of the energy portfolio and the use of the vast untapped renewable energy potential which will have positive externalities in terms of environmental and economic obvious to the continent. Governments in Africa must no longer ignore the strengthening of resource management practices, they must ensure that the future growth and exploitation of natural resources are climate resilient, increase intergovernmental cooperation to improve and coordinate policy responses up to the challenge.

We point out that Africa calls for the maintenance of the Kyoto Protocol achievements, in particular the idea of an emission permit that makes it possible to sell or buy rights to emit between industrialized nations on the one hand; and on the other hand the “joint” implementation which allows those countries to finance projects in order to reduce GHG emissions outside their territory, particularly in a developing country whose financial resources are limited.

We note that 65% of the support received by the nations of the continent, according to Instat-Mali (2017), comes from individual or collective efforts from EU countries. The European Development Fund (EDF) facilitates the financing of responsible projects in the countries or territories of the South. This fund has a budget of 30.5 billion euros over the period 2014-2020. Several sectors are covered, including in particular environmental protection, natural resources and climate, sustainable agriculture, etc. Mauritania benefited in September (2018) from a funding line of up to \$ 63 million, to promote environmental protection.

We will develop through the points that follow the impacts of the policies in force.

#### **1. The adoption of the Clean Development Mechanism (PDM)**

The various components are affected in the application of this mechanism. Among these, we have the sectors of agriculture, industry, waste treatment, energy, forestry, transport, etc.

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<sup>4</sup><https://www.jeuneafrique.com/mag/373366/societe/protoger-lenvironnement-afrique-figures-de-lecologie-repondent/>, consulté le 6 janvier 2019.

However, some researchers like Tubiana, (2002) or Demaze (2013) and specialized media have critically analyzed this process.

We agree with Barral (2006)<sup>5</sup>, that this mechanism did not benefit from membership at its inception, it was only from 2005 that the actors understood its real usefulness, with the creation and operationalization of the carbon fund by the World Bank. The adoption and establishment of a carbon market in the same year (2005) within the European Union worked in favor of this policy. In April 2008, Africa was still at an exploration stage with only 2% of the 1,026 MPD projects validated and registered according to the mechanism's executive committee. Asian and Pacific countries presented 63% of these projects and 33% by the Latin American and Caribbean nations. The executive committee estimates that these projects save 209 million tonnes of carbon dioxide (CO<sub>2</sub>) equivalent annually.

In 2015, we noted a major advance in Africa in the implementation of 117 CDM projects. The significant improvement in the number of these projects on the continent is mainly due to their economic benefits, in the countries that have presented initiatives.

As a successful project, we highlight the one initiated by the "Hygiène et Salubrité du Cameroun (Hysacam)" company in 2008, allowing the recovery of GHGs through the recycling of waste. It is carried out with funding from the "Societe Generale des Banques du Cameroun" in association with the French company Orbeo. The project carried out enables biogas to be captured at the Nkolfoulou landfill and composting at the Douala landfill. Experts estimate that with this project we will reduce approximately 75,000 tonnes of methane by 2029, that is to say twenty one (21) years, corresponding to the lifespan of this project.

As noted above, we share with Oumba (2015, 7) that several sectors benefit from the positive externalities of the implementation of CDM projects. Regarding the energy sector, the Senegalese national electricity company (SENELEC) has benefited from considerable support from the World Bank (WB), like the PRESELEC fund. If we take the case of developing countries like Mali, taking into account the importance of the energy sector in the context of economic development, we can only admit that such a practice will only be beneficial for the national economy.

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<sup>5</sup>Barral J.P, (2006), Aider les pays du Sud à limiter leurs émissions de gaz à effet de serre : le mécanisme de développement propre prévu par le protocole de Kyotoest-il la solution ? Dans A quoi sert d'aider le Sud ? (sous la direction de Michailof S.), *Economica*, p.271-297.



The Protected Designation of Origin (PDO-MDP) has adopted similar projects on the continent<sup>6</sup>. Among these, seventeen (17) are the work of South Africa, six (6) projects are initiated in Egypt, five (5) in Nigeria and one (1) respectively implemented in Rwanda, in Tanzania, Senegal and Ivory Coast.

Pollution of natural environments such as air, water, soil have very destructive consequences on the environment. The effect of air pollution was determined by the European Clean Air for Europe (CAFE) program, which highlighted a correlation between lower life expectancy and air quality, based on the average levels of fine particles measured in 11 European nations in 2000. Results show that European citizens lose on average about 10 months of their lives due to air quality (this time is from 3.7 in Finland to 15.4 months in Belgium).

## **2. Policies to reduce emissions from deforestation and forest degradation (REDD)**

We recognize that the African continent is home to dense forests, producing significant amounts of carbon essential to better regulate global temperatures. Among these, we have the Congo Basin forests, which occupy the second rank of the forest massifs after the Amazon. As a result, when these forests are threatened, through the effects of human behavior such as agricultural expansion, infrastructure needs, or the overexploitation of forest products, the trees release more of the gases they contained. This situation is worrying, since these gases account for around 20% of global GHG emissions. We can therefore admit that deforestation causes more considerable pollution than that generated by the energy sector and even that of transport. The example of 25 young people in Colombia, aged 7 to 26, supported by the non-governmental organization (NGO) Dejusticia who have recognized by the Supreme Court the need to act against deforestation in the Amazon and for climate protection. In December (2018), the United Nations (UN) identified some 900 other ongoing climate trials in different jurisdictions.

We recognize that there is a great urgency to combat threats to ecosystems. The Economics of Ecosystems and Biodiversity (TEEB) through its 2008 report underlines that almost 60% of the services rendered by the ecosystems analyzed (fresh water, wood, pharmaceutical ingredients, fishery resources) have considerably deteriorated during the last 50 years<sup>7</sup>. The reasons are inherent in climate change, pollution and the overexploitation of ecosystem resources. This report estimates that the cost of inaction in terms of biodiversity loss will reach 7% of world gross domestic product (GDP) and 60% of the GDP of poor countries (that of the agriculture, livestock and informal forestry in these countries) by 2050.

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<sup>6</sup>Parfait Oumba (2015), *La pratique des projets environnementaux en Afrique*, Thèse de doctorat Université Catholique d'Afrique Centrale, Cameroun.

<sup>7</sup>Les Echos (2009), Bruxelles veut réduire d'au moins un quart les captures des espèces les plus menacées, 13 mai. Consulté le 8<sup>n</sup> Novembre 2018.

REDD mechanisms are initiated through an action plan, the objective of which is to eradicate the scourge of forest destruction at the national and regional levels. Originally, this process only concerned the reduction of emissions linked to deforestation (RED), this mechanism has been extended to activities which, without overshadowing the questions linked to the safeguarding of the forest, degrade it gradually. REDD is now designed to cover national contexts, integrating all aspects of conservation, strengthening carbon stocks in other words sustainable forest management. This framework seems appropriate for African nations in the mobilization and consolidation of achievements.

The Holistic Forest Conservation Program has been funded in Madagascar through REDD support. For Tapsoba (2019), president of the association "Terre à vie", whose slogan: Produce what we consume, the principle of agroecology is a mechanism protecting the deterioration of the environment. For several generations, people have reused cow dung, mutton droppings and leftovers from the kitchen, disseminating them in the fields before the rainy season. In addition, when a villager has good natural seed, he shares it with others. Agroecology makes it possible to respect nature and biodiversity.

In addition to the CDM and REDD which aim to develop carbon or GHG capture projects, it is necessary to mention other types of projects which make it possible to save the environment such as ecotourism.

### **3. The significant contribution of ecotourism in different economies**

By ecotourism, we often mean wrongly, a practice that can induce direct and indirect income to local populations through short stays in the sites. From this point of view, it stimulates the creation of jobs for local actors, the improvement of the benefit brought to the local and national economy.

We agree with Lapeyre et al. (2007)<sup>8</sup>, that ecotourism is increasingly seen as an activity that reconciles nature conservation and development, especially in Africa. Kenya is recognized worldwide for this practice, but the threats to which the Masai-Mara is subjected today, constitutes an obstacle to the beneficial effects for humanity of this world-renowned natural reserve. This country, whose tourism industry is a major contributor to its GDP, is exposed to the decline of this heritage following high-speed drying induced by upstream deforestation, demographic pressure, poorly controlled management of water resources, etc.

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<sup>8</sup> Lapeyre.R, Andrianambinina. D, Requier-Desjardins. D, Méral. P, (2007), L'écotourisme est-il un mode durable de valorisation des ressources naturelles ? Une comparaison Namibie-Madagascar, *Afrique contemporaine*, De Boeck, pp : 83-110.



The concept of ecotourism is largely based on the gradual abandonment of mass tourism, which in many situations contributes to the degradation of the environment<sup>9</sup>. The simultaneous consideration of the satisfaction of the populations or the nations visited by providing economic spin-offs to ensure that the sites are not degraded. In addition, the nature needs of tourists constitutes the expectation that ecotourism plans to resolve. In Africa, and particularly Mali, various ecotourism sites exist like the Dogon country in the center, the tatas in the Sikasso region, the Medina fort in Kayes etc. In Cameroon, we can cite the ecotourism activities organized in the village of Ebodjé initiated in 1999. Local actors were involved in all stages of this project.

We retain through the above the significant impact of ecotourism, considered as an environmental project, in the local economic sphere of all places with sites meeting the criteria. The activity induced by ecotourism contributes to the creation of jobs but also, facilitates the financing of capital-intensive investments. By promoting ecotourism in African countries, it is a question of recognizing the public utility of this activity to generate significant income, which can facilitate the improvement of the standard of living of the populations. The beneficiaries will considerably reduce the abusive exploitation of natural environments, thus generating environmental preservation, even the restoration or rehabilitation of natural sites and habitats already threatened or weakened.

#### **IV. THE IMPACTS OF THE MEASURES ADOPTED IN AFRICAN COUNTRIES**

The African Union (AU) believe that resources allocated to the Global Environment Facility (GEF) should increase; it takes the courage to take action to mitigate the consequences of climate change, access to clean energy, technology transfer, capacity building and additional funding. It advocates a "*New Green Pact for Africa*" which should no doubt allow the continent to acquire mechanisms that can act effectively against the effects of climate change.

##### **1. A limited contribution from sustainable development to revive national economies**

The impacts of operationalizing measures to protect the environment have different implications. We agree that the limited effects for the moment of sustainable development on the revival of African economies are engendered by demographic, technical and financial, even legal and institutional, constraints in certain measures.

##### **a. The inherent limits of demography**

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<sup>9</sup>Parfait Oumba (2015), *La pratique des projets environnementaux en Afrique*, Thèse de doctorat Université Catholique d'Afrique Centrale, Cameroun.

Considering that in 2017, the annual increase in urban population is 2% globally, but that of growth for cities in sub-Saharan Africa is double. By 2033, the urban population on the continent will increase by 350 million inhabitants according to estimates by the National Institute of Statistics of Mali in June 2018. Agglomerations or cities must necessarily adopt policies capable of generating effective results and invent new models to meet the needs of city dwellers in terms of energy consumption, water, waste management, transport, etc.

There is therefore the need for the emergence of smart cities<sup>10</sup>, making good use of science, scientific and technological tools for effective and efficient management of infrastructure and resources in urban space. We note that this concept is now significant by taking into account two factors: on the one hand, the constraints linked to climate change and, on the other hand, the pressure inherent in the strong demographic growth.

Urban centers are key players in the process of managing the issues that cause climate change. Cities contribute 70% of GHG emissions and these are places where two thirds of the world's energy is consumed. One of the logical consequences is that it is in the cities where we record the cases of frequent floods. We must not forget that urban pollution has devastating effects on the health of the people living in these localities. WHO highlights in its 2018 report that 4.2 million annual deaths are attributed to air pollution in public space. Smart cities are therefore a bulwark against these negative externalities through the adoption of innovative strategies in public service management models.

African countries are subject to similar situations that we encounter in the countries of Latin America, South Asia. The strong demographic pressure is caused on the one hand by the high birth rate, and on the other hand by the rural exodus accentuated by the job opportunities in the cities. The difficulty induced by the above problems is the significant increase in investment needs compared to the available means; other constraints also exist in relation to planning for urban and peri-urban development.

To solve the problems resulting from the strong urbanization, often anarchic and not properly accompanied, by considering the legacy of capitals too narrow for the current population density, it is therefore necessary to create new urban centers. This constraint leads us to rethink cities and intelligently design transport, sanitation and effective and efficient management networks for the waste produced. The key word is efficiency through the implementation of systems that allow the city and the townsfolk to collectively consume a minimum amount of energy and time for their daily lives. This imperative has been essential since the signing of the Paris climate agreement in 2015 where countries agreed to limit their GHG emissions. The populations must

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<sup>10</sup> <https://www.afrique.latribune.fr>, l'efficacité énergétique, un gisement d'opportunité, consulté le 5 novembre 2018.

be consulted before the design of the different strategies, to facilitate the appropriation of the measures adopted.

### **b. Technical and financial obstacles**

Taking into account the growing demographic weight of Africa in the world, we have to admit that this situation will increase the damage caused to the environment. We raise the aspects relating to technical barriers that can minimize the damage to the effectiveness of sustainable development in this region of the world, with regard to advances in technical and technological means.

The penalization of African economies in the environmental field can largely be induced by the immaturity of the market for viable and promising technologies. The priority in the majority of the nations of this continent is based on the fight against poverty, which relegates to the secondary rank, the taking into account of environmental projects. This requires a great technicality and the means that governments cannot mobilize alone without assistance from technical and financial partners (TFP) such as the EU, the United Nations Environment Fund, etc.

We agree that the level of expertise in environmental matters is not significant in developing countries, particularly those in Africa. However, we are witnessing an increasing number of international programs and initiatives. As far as France is concerned, there is an action included in the fight against climate change. This action has benefited from funding of more than 7.4 billion euros according to the French Development Agency (AFD) since 2007. The mastery of techniques through projects in the field of renewable energies and energy efficiency have been up to 78% of the envelope spent for this purpose.

Financial constraints are not the only limits, because it is essential not only to have indisputable, reliable and up-to-date knowledge, but also to technically master the devices, tools and procedures that are institutionalized in the field of sustainable development. These fundamentals or prerequisites are a necessity leading to the validation of a credible supply of projects. In fact, we find that several projects are abandoned or rejected, because the test phases were generally a failure following the nonconforming or inconclusive results.

The insufficient level of expertise, accentuated by the lack of adequate training for the bearers of new ideas, justifies the fact that the projects do not lead to the expected results. The knowledge of actors in Africa in this area and the capacity of its forest sector to react to climate change is weak.

In Mali, the weakness of technicality is to be deplored in the establishment of certain National Committees, because the selections are not made according to criteria based on the proven skills

of the members. We encounter the same situations in Niger and in Burkina-Faso. In Cameroon, for example, representatives of different ministries rub shoulders with those of civil society through non-objective criteria. The competence of the human resources chosen being limited, it undoubtedly follows that, projects having received internally a favorable opinion, are seen rejected before the Operational Authority designated on the international level. Unfortunately, this fate awaits the majority of Malian and African projects in general.

### **c. The burden of legal and institutional constraints**

We first analyze the legal difficulties, to take stock afterwards on the institutional limits.

The application of the majority of environmental projects is not accepted by the populations, and often rightly so, by the absence or insufficiency of internal legal standards for the reception of initiatives developed at the international level. Statistical institutes allow us to know these gaps at the regional level, because existing data show that it is a hindrance that is widespread in Africa. In fact, there are 47 African projects approved in 2014 according to Instat-Mali, compared to 1,001 for China, 546 for India. Brazil totals 179, Mexico 123, Malaysia 86, Indonesia 48 and the Philippines 42. Regarding Central Africa that is home to the second largest forest in the world, in addition to the enormous wealth of its biodiversity, only knows two projects (in Rwanda and the other in Cameroon).

The context is even less favorable with regard to REDD projects. Indeed, there is no legal text now, which allow defining its legal contours of its implementation. This sad reality exists in the vast majority of countries on the continent.

## **V. CONCLUSION**

We share with several researchers (Mauvais 2016, Le Moigne 2014, Laurence 2002 etc.), the idea that humans have a considerable impact on the health of our planet has become a consensus. The emergence of the concept of climate change and, little by little, the acceptance of its origin, largely human, have largely contributed to it. Let us remember that it was not that long ago, it took demonstrations to convince us of such evidence. To improve the living conditions of the populations in this regard, to the threats induced by the degradation of the environment through climate change and the strong demographic pressure, the classic development projects alone no longer make it possible to resolve the issues. It is therefore essential to try another paradigm.

We agree with Demaze (2010)<sup>11</sup>, that despite the legitimate concerns of different African governments, focused on the reversal of poverty indicators and underdevelopment, these

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<sup>11</sup> Demaze Moise Tsayem, (2010), *L'Afrique dans la géopolitique du développement durable entre pauvreté et mondialisation des préoccupations environnementales*. Université du Maine

countries are also interested in issues related to the preservation of the environment. They do this through the mobilization of means, which allow the consolidation of the advances linked to the requirements of sustainable development as it is implemented in the world, in particular since the Rio Conference in 1992.

Today, African nations no longer see environmental protection as an obstacle to development. On the contrary, they combine them in order to generate sustainable economic development, taking into account environmental issues. There are many international mechanisms for protecting the environment. However, they want to address issues related to the socio-economic development of the countries of the African continent. Thus, environmental projects like the REDD mechanism, the AWF, the CDM play a major role in this protection, but they also play a significant role in reviving the economies of these countries, although there are still various constraints in the implementation of these.

However, if an African country decides to opt through the path of sustainability that seems politically correct for an economic recovery today, it is still necessary to question the real economic impacts of this policy on its development. Indeed, there is unanimity on the fact that stable and lasting economic development is first and foremost based on heavy industries. However, African countries have so far failed to achieve energy independence capable of supporting the needs of the industries mentioned above. With a share of only 18% in world consumption in 2016, renewable energies (RE) and the other forms of energy developed within the framework of the environmental projects recommended in Africa, cannot satisfy what is necessary for efficient operation and heavy industry efficiency.

It is important to note, that the northern countries (EU and elsewhere) before making the choice of renewable and less polluting energies, founded the bases of the development of their industries on energies like coal or hydroelectricity. This situation allows us to put into perspective to some extent the level of development desired by African nations. We agree with Oumba (2015, 6) that the 1.2 billion people living in the countries of the North consume an average consumption per individual hour of 60 Megawatt hours (MWh), while the remaining 4.8 billion live in Southern countries consume only 10 MWh / person, which is far below the needs to reach the level of development of industrialized countries.

Despite the alerts of recent years, Mauvais (2016) estimates that the impact of human activities is increasing, but ultimately slower than expected. For the latter, a study published in "Nature Communication" and conducted on the recent period of our development confirms this trend. Between 1993 and 2009, it determined the ecological footprint or the impact of human activities on our environment. This would have increased by 9%, which is lower than that of demographic growth recorded over the same period (+ 23%) and that of the world economy (+ 153%). We

note through this observation that our negative externality on the environment increases less quickly than our capacity to harm it, while the population is increasingly rich and numerous. Is it because we have rightly become aware of environmental issues? This situation remains to be proven.

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