RETHINKING THE AFRICAN ECONOMIC RECOVERY IN SUSTAINABLE DEVELOPMENT: THE CASE OF ENVIRONMENTAL PROJECTS

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Abstract

Several environmental projects are being developed in Africa with the goal of achieving sustainable development. Some of them include the mechanism for clean development, reducing emissions from deforestation and forest degradation, access to water facility or the forestry fund for the Congo Basin. As the demand for conciliating economic development and sustainable development increase, these projects have been conceived to contribute to the expansion of the economies in the countries in which they are established. Though the way to sustainability seems to be politically correct for an economic revival today, one has to ask if African economic revival can be realized through sustainable development considering the objectives of these environmental projects elaborated in Africa.

Keys Words

Sustainable development; Economic revival; Africa; Environmental projects; Climate change

The concept of "*sustainable development*" was introduced in the United Nations to try to reconcile the divergent views of developed and developing countries on the importance attached to environmental concerns in their respective economic policies. Sustainable development means primarily an integrated view of the requirements of environmental protection and economic development, as set out in Principle 4 of the Rio Declaration[1].

According to the report of the World Commission on Environment and Development entitled "*Our Common Future*" (1987), sustainable development also aims at meeting the needs of poor countries, with the interests of future generations, and demand recovery in Rio Principle 3[2].

It involves adapting methods, or in most cases, the ideology behind the Sound Management of a modern State, respecting the expression of concerns and choices of people affected by economic policies and environment in particular. It also involves equitable use of shared natural resources, which are of a greater significance.

It is true that diplomatic assets as well as the technical weaknesses of this concept are due to its extreme generality and unspecified limits, which have to guide it without defining it.

However, it should not take it as a principle to the single meaning but as a conceptual matrix, defining the general perspective in which the already established principles of good environmental management must be returned[3].

The adjective alone "*sustainable*" added to the word "*development*" causes an avalanche of analysis and reveals more the tone-making positions of classical science, because it seems that the study of sustainable development is not feasible without replacing many fundamental concepts that might seem consensual to date.

Agenda 21 is the culmination of a preliminary discussion on sustainable development. Indeed, development alone is not enough, it must also be sustainable. "*Sustainable*" is still a term of *Franglais,* adopted here because the official translation, "*sustainable development*", is imperfect. "*Sustainable*" is not used in French except with regard to a thesis, but phrases such as "*excruciating pain*" or "*unsustainable*" are needed for understanding what "*sustainable*" means. The term implies, firstly, "*good for all men and women who live at some point*" and, secondly, that of "*sustainable over time*", that is, a process that must support their own pace, including future generations[4].

The economic approach defines sustainable development as one that aims to preserve, from one generation to another, the overall capital stock (natural or artificial) that is necessary for the welfare of present and future generations. This approach is based on the assumption of high substitutability between natural and artificial capital, and applies to the instruments of the neo-classical market failures[5].

Accordingly, the 1980's and 1990's were marked by scientific recognition of the link between anthropogenic emissions of greenhouse gases and the risks of climate change on the planet. The adoption of the UN Convention on Climate Change in 1992 and the entry into force of the "*Kyoto*" Protocol led the international community to consider important efforts in limiting and reducing greenhouse gas emissions.

From this perspective, the central question that arises from this study is whether; the recovery of African economies can be achieved from a sustainable development perspective, considering the fight against climate change, particularly through environmental projects developed in Africa. Thus, under the operation of sustainable development tools, how can African countries benefit from the practice of environmental projects to promote the revival of their economies? In other words, to what extent can environmental projects contribute to the revival of African economies? First, we present the

practical environmental projects as a remarkable asset to the recovery of African economies (I), and then we consider the obstacles that hinder its effective deployment (II).

I- PRACTICE OF ENVIRONMENTAL PROJECTS: A REMARKABLE ASSET IN THE ECONOMIC REVIVAL PROCESS OF AFRICAN COUNTRIES

Several environmental projects have been developed in Africa as part of the implementation of sustainable development. As a requirement of economic sustainability, these projects are designed to contribute to the development of the economies of countries in which they operate. Indeed, either they are a magnet for investors looking for certified carbon emission credits (A), or they are established by international financial institutions who manage these projects (B).

A- The implementation of environmental projects in Africa: a magnet for investors looking for certified carbon emission credits?

Two types of environmental projects were designed to generate significant economic benefits for the country that hosts them. This includes the Clean Development Mechanism (CDM) (1) and projects in the process of Reducing Emissions from Deforestation and Degradation (REDD) (2).

1- *The Practice of the Clean Development Mechanism*

According to the Kyoto Protocol, OECD countries, countries of Eastern Europe and those countries of the former Soviet Union agreed to meet targets to reduce net greenhouse gas emissions between 2008 and 2012. The Protocol admits that the objectives can be met individually or jointly by signatories. Thus, it defines three mechanisms to facilitate the achievement of targets. These mechanisms, called "*flexibility mechanisms*" are:

- The Joint Implementation (Article 6), which authorizes the purchase and sale between Annex B countries, of units of emission reductions from projects for the reduction and avoidance of greenhouse gas emissions;

- The clean development mechanism (article 12), which is the only mechanism involving the participation of non-Annex B countries, allowing them to receive emissions credits following the completion of projects to reduce or avoid greenhouse gas emissions in developing countries.

- The trade in emission rights (Article 17) is allowed between countries in Annex B for the purpose of meeting their commitments.

Of the three flexibility mechanisms in the Kyoto Protocol to facilitate the achievement of the objectives of the Convention, the Clean Development Mechanism is one that has been specifically designed to enhance participation of developing countries in the fight against climate change while achieving sustainable development goals. Hence, a critical study of the CDM is needed prior to its implementation in Africa.

a- Criticism of the Clean Development Mechanism

Several scholars have participated in the critical analysis of the Clean Development Mechanism. For example, Laurence Tubiana believes that : « *mécanisme pour un développement propre est la réponse aux demandes des pays en développement d'un mécanisme financier, qui appuie le développement économique en adoptant des méthodes de production plus « propres ». Contrairement au mécanisme de la mise en œuvre conjointe, qui vise en priorité à lancer des projets de stockage de carbone ou de réduction d'émission, le MDP s'adresse aux besoins de financement du développement. Le mécanisme génère des crédits d'émission sur la base de projets d'investissements dans un pays en développement. Ces projets, dont la nature reste à préciser et qui sont le fait d'investisseurs publics ou privés, déterminent des réductions d'émission de gaz par rapport à une situation de référence. Ainsi un projet de centrale à charbon, plus propre que la situation de base, ou une simple modernisation des équipements antérieurs, crée des droits d'émission proportionnels aux économies réalisées. Ces droits peuvent être stockés ou échangés et doivent faire l'objet d'un partage entre l'investisseur étranger et le pays hôte*[6]».

However, a compromise resulting from multilateral negotiations, regarding the clean development mechanism is highly controversial. According to some critics, this mechanism would allow developed countries to evade their obligations to reduce greenhouse gas emissions on their own territories or to reduce emissions at low cost by investing in developing countries. Other criticisms relate to the potential influence of the implementation of this mechanism on the State sovereignty and equity earnings of developing countries.

Unfortunately, we must consider with Ruosi ZHANG's statement that « *Ces critiques sont plus ou moins fondées. Cependant, le plus important est que beaucoup d'éléments importants du mécanisme pour un développement propre sont très ambigus. Ces*

éléments doivent être éclaircis par le biais de négociations. Ainsi, ce mécanisme pourra s'appliquer sur le terrain et contribuera réellement à réduire les émissions de gaz à effet de serre à l'échelle mondiale. Par exemple, comment définir avec précision les activités qui peuvent être certifiées dans ce mécanisme et qui doivent répondre aux critères tels que les avantages réels, mesurables et durables liés à l'atténuation d'émission des changements climatiques[7] *? Comment calculer et vérifier les réductions d'émissions de gaz à effet de serre découlant de chaque activité certifiée, qui sont utilisées par les pays développés pour remplir une partie de leurs engagements chiffrés prévus à l'article 3 du Protocole de Kyoto* »[8].

Several other criticisms of implementing clean development mechanism include:

- cumbersome and complex procedures for project approval: many developing countries have neither the resources nor the expertise to meet the evaluation criteria;
- the difficulty of demonstrating certain criteria, particularly that of additionality;
- the uneven geographical distribution of approved projects (over a thousand) shows a wide disparity, with the most ambitious projects benefiting primarily to emerging countries and very little to the least developed countries;
- lack of resources of the Executive Council: This body is responsible for validating the project and ensuring compliance with conditions set by the guidance material ,but it suffers from a recurrent lack of resources;
- Lack of projects targeting energy efficiency and participation in sustainable development.

Faced with these difficulties, it is necessary to improve and simplify the CDM procedures, without compromising the principle of additionality and the specific objective of the CDM. This should allow host countries to ensure their development while reducing greenhouse gas emissions.

Laurence Boisson de Chazourne considers that « *Les pays africains, qui ne sont consommateurs de pétrole et de gaz qu'à un degré d'environ 3% de la consommation mondiale d'énergie, ne veulent pas être une nouvelle fois marginalisés. Ils font valoir à leur profit un nouveau concept, celui de l'« energy avoidance ». N'émettant pour ainsi dire pas de gaz à effet de serre, ils voudraient que cela soit reconnu dans une logique de prévention. Ainsi, les projets financés à leur endroit par l'intermédiaire du mécanisme pour un développement « propre » devraient couvrir toutes les activités liées au développement durable, et non pas seulement celles relatives aux questions d'utilisation d'énergie, leur reconnaissant ainsi un statut en matière de prévention de dégradation de l'environnement*[9] ».

Antoine Bonduelle goes further in his criticism « *Les trois mécanismes de Kyoto trouvent leur justification dans le fait que les réductions d'émissions ne sont pas a priori équitables entre les nations. Des pays riches peuvent trouver avantage à agir ailleurs que sur leur territoire pour réaliser des investissements plus fructueux du point de vue de l'économie et/ou des émissions de carbone. Mais si cette base théorique trouve sa justification pour des raisons économiques, elle se heurte à plusieurs problèmes. Tout d'abord, les mécanismes de flexibilité peuvent coûter plus cher en transaction que les gains obtenus. C'est le cas, par exemple, si le commerce des permis inhibe des actions très rentables pour la collectivité comme certaines normes. Il existe ainsi un risque d'inaction des pays par peur de l'OMC ou des instances européennes, tandis que les permis d'échange restent encore un mode virtuel de réguler les actions. Ce serait un comble de ne pas pouvoir aider la construction de nouvelles infrastructures rail, par exemple. Ensuite, si des actions très bon marché sont proposées, en particulier le hot air russe ou les puits de carbone dans des pays de grande dimension, alors la « flexibilité » se traduit par un retard dans la recherche et l'application de technologies performantes*[10] ».

Jean Marie Bockel also in his criticism of CDM states « *Les mécanismes flexibles prévus par le Protocole de Kyoto – qu'il s'agisse des commerces de quotas d'émission ou de la comptabilisation des puits de carbone – doivent être considérés comme des mesures d'accompagnement, qui ne peuvent en aucun cas se substituer à la responsabilité majeure qui incombe à chaque Partie en matière de politiques à mettre en place pour réduire les émissions qui nuisent à la planète. C'est à ce propos donc que les pays les plus développés ont également la responsabilité de participer en partenariat avec des pays plus démunis et de faciliter les transferts économique et social du pays*[11] ».

With the entry into force of the Kyoto Protocol on 16 February 2005, a new impetus for sustainable development was launched, and the clean development mechanism has taken a more prominent role with a promising future because, it can be valuable and promote international cooperation on concrete projects for sustainable development. This mechanism results from the combination of two instruments that preceded it and whose objectives it incorporates.

These are: firstly, the mechanism of joint implementation (joint implementation), and secondly, the Fund for Sustainable Development (Clean development fund). Like joint implementation, it aims at reducing greenhouse gas emissions. It also aims at developing « clean » and « sustainable » development of developing countries.

The contribution of the CDM to sustainable development of countries in Annex II must be assessed at two levels: global, aggregate and at a local level, project by project. At the global level, attention will be focused on the contribution of CDM to meeting the energy needs of developing countries.

We know that they have a considerable deficit in covering their energy needs. While some 1.2 billion people in industrialized countries have an average hourly consumption of 60 MWh / person, the other 4.8 billion people are content with10 MWh / person, meanwhile in order to develop, they should use more than developed countries. If the CDM allowed them to catch up with industrialized countries while protecting the climate, it would have served its purpose adequately. At the local level, and at a "micro" scale, it should ensure that the projects presented to the different designated national authorities and then to the Executive Committee are consistent with the requirements of sustainable development given the economic, social, specific environmental and cultural demands in which they must fit[12].

b-The practice of Clean Development Mechanism in Africa

Sectors concerned in CDM projects are as diverse as energy, waste treatment, industries, residential and tertiary sector, transport, agriculture and forestry.

While this mechanism aroused little enthusiasm in the beginning, it has spread rapidly since 2005, following the establishment of carbon funds including the World Bank (Barral 2006). The creation of a carbon market in the European Union in 2005 has also reinvigorated the device. Data from the CDM Executive Board reveal 1026 CDM projects that have been validated and recorded on 23 April 2008. 63% of these projects are located in Asia and the Pacific, 33% in Latin America and the Caribbean, and 2% in Africa. These projects represent a saving of 209 million tons of carbon dioxide (CO^2) per year, slightly more than one billion tons of CO^2 by 2012 according to the estimates approved by the executive Committee of the CDM .

According to recent trends, many CDM projects are taking shape on the African continent. To date, 112 registered CDM projects are being recorded in Africa. Growth in the number of these projects in Africa is clearly the result of the economic benefits of these projects for African countries.

For example, the project initiated by the company HYSACAM (Hygiene and sanitation of Cameroon) in 2008 with the aim of recovering greenhouse gas emissions by

recycling waste. This project is conducted in partnership with the Société Générale des Banques of Cameroon and the French company ORBEO. The project involves capturing biogas from the Nkolfoulou disposal ground, and the composting of wastes in Douala. The realization of this project will reduce approximately75 000 tons of methane over the entire duration of the project, that is,, twenty one (21) years.

This project undoubtedly will provide economic benefits. First of all it will create many jobs in the context of the implementation of the capture of biogas. Additional labor will be necessary for the preparation of cells, identification of waste, the construction of wells and so on. Moreover, the project shall build capacities in urban waste management. It is important to note that profits from the sale of Certified Emission Reduction units will be used to fund projects in the Areas of Health and others to help improve the living conditions of people living in Yaoundé.

In addition to this example, several project initiatives have also launched in Cameroon. This is the case for the electricity production projects through cogeneration from wastes from wood processing plants in the East, Centre and Littoral regions of the country. Until 2008, this project has been opposed by the CDM National Committee.

The different sectors involved in the implementation of CDM projects include energy, waste treatment, industries, residential and tertiary sector, transport, agriculture and forestry. An example in the energy sector includes the SENELEC-World Bank partnership in Senegal. As part of a fund PRESELEC, the World Bank provides funds for SENELEC to absorb a portion of its energy deficit. Thus, it is possible for the Production transport and electricity supply company in Senegal to increase performance. When we know the importance of the energy sector in the economic development of a country, we can see such a project as a springboard for the Senegalese economy.

Several other projects have been approved in Africa by the PDO-MDP. These include seventeen (17) projects in South Africa, six (6) projects in Egypt, five (5) projects in Nigeria and one (1) project implemented separately in Senegal, Côte d'Ivoire, Rwanda and Tanzania. Tanzania in particular implemented in 1996 a project to increase carbon stocks through non-deforestation, including a planting program of about 2000 hectares of forest per year. On a global scale it aims to reduce greenhouse gas emissions. A specific objective of the project is to facilitate the socio-economic development of communities in South-eastern Tanzania.

Developed with the support of the University of Infrastructure of Sokoine, the Kilombero Forestry Project Company Ltd (KFC project)[13] provides in terms of benefits and socio-economic development of rural areas through job creation, development of road infrastructure and easier access to schools. In 2004, 1400 hectares of pine and eucalyptus trees were planted and about 15,000 in 2008.

2 - Projects relating to reducing emissions from deforestation and forest degradation (REDD)

African forests are important carbon profucts which regulate global temperatures. This is the case of the Congo Basin forests that represent the second largest forest after the Amazon. It follows that when these forests are destroyed, especially for agricultural expansion, infrastructure development or logging, gases contained in the trees escape. This is an alarming phenomenon, because these gases account for nearly 20% of global greenhouse gas emissions. Moreover, the destruction of forests causes pollution which is more than that from the energy and transport sectors.

The REDD process is an action plan to fight against deforestation and forest degradation at local and regional levels. Though at first it was just RED (reducing emissions from deforestation), the process was extended to activities which, though do not cause the forest to disappear, significantly degrade it. It is no longer an issue of deforestation and degradation. REDD+ is a mechanism which is now open to all contexts, because it includes the conservation, sustainable forest management, and strengthening of carbon stocks[14]. It makes financial compensation available to developing countries so that they leave their forests untouched and instead invest in projects with very low carbon that contribute to biodiversity conservation.

These funds are a great tool to boost the economy of a country. Indeed, implementing REDD in Africa is to recognize the critical role that forests and trees play in the socio-economic development and address the underlying causes of deforestation and degradation. Forests and trees help to support key sectors in the many African economies, including agriculture and animal husbandry, tourism and water. Forests are essential for maintaining the quality of the local environment and for the provision of subsistence goods. Climate change poses a major threat to Africa's forests and their role in society. Agricultural production and access to food across the continent could be seriously compromised. Because they use only basic agricultural technology and have low incomes,

many African farmers have very few options to adjust and inevitably depend on forest resources for their survival.

Thus, all strategies to cope with climate change in Africa must also take into account the improvement of livelihoods of people who depend on forests. So with the implementation of REDD, most of the population and African countries could provide new strategies and receive support for alternatives to the forest.

It is within this framework that« *Programme Holistique de Conservation des forêts* » was born in Madagascar. This project aims at reducing greenhouse gas emissions from deforestation and forest degradation in Madagascar and is supposed to end in February 2012. It aims both at improving knowledge on the impact of field activities that aim at reducing GHG emissions and to a lesser extent, to sequester CO^2 already present in the atmosphere; to improve the living conditions of local communities through the transfer of natural resource management and develop sustainable agricultural practices such as irrigated rice, or agro forestry. It was France through Air France, that funds this project exclusively. In terms of economic benefits, the project will enable diversification of agricultural production improve yields of local and national producers, promote sustainable agricultural practices and job creation. It is implemented on a total area of 515,000 hectares of rain forest and thorny bushes.

The economic benefits from the financial and technical cooperation from REDD may be significant for a country like the Democratic Republic of Congo, which has 134 million hectares of tropical forest alone and about 40 million people, 400 to 600.000 pygmies depend on the forest for food, medicine and energy.

In addition to the SDM and REDD mechanisms which are intended to develop projects of carbon capture and greenhouse gas emissions, it is important to mention other types of environmental projects which have the potential to be funded by financial institutions in Africa.

B-The involvement of financial institutions in managing environmental projects in Africa

The presence of financial institutions in the practice of environmental projects in Africa is a factor that can help boost African economies. Indeed, already partners in the socio-economic development of many African countries, institutions involved in

financing sustainable development projects include the African Water Facility (1) Fund and the Congo Basin Forest (2).

The African Water Facility (AWF) is an initiative created on 25 May 2004 by the Board of Governors of the African Development Bank (AfDB), and led by the African Ministers Council on Water (AMCOW) for mobilizing financial resources for development of the water sector in Africa. The mandate of the AWF is to build a favorable environment for attracting investment and effective use of direct investment capital in order to trigger increased investment for sustainable development. Its principal areas of concern include the implementation of the Integrated Water Resource Management (IWRM), support to regional management of border water resources, improvement of knowledge and information in the field water and development of systems for monitoring and evaluation.

These areas of intervention, as well as operational guidance, funding projects and programs are approved by the Board of Directors of the AfDB. AWF supportsnational and regional capacity building (legal reforms, institutional), and improved organizational capabilities.

An example funded by AWF is a pilot project for the introduction of techniques for collecting and using rainwater in Rwanda. The gift of the AWF of 450,000 Euros is intended to fund this pilot project that will introduce the techniques of mobilization of water in the District of Bugesera, increase productivity, improve agricultural production and ensure the availability of drinking water.

The economic analysis of this project shows that the techniques for collecting rain water make a gross profit for the cultures studied, such as sorghum, beans, cabbage and sweet potatoes, in a normal years and drought years. These techniques allow an increase in production and income for all crops studied. All cultures with collection of rainwater generate a net profit ranging from 20 000 to 107 000 RWF in normal session and from 38,000 to 180,000 FRW during a drought. The valorization of a working day is increased from 30 to 44%. Additional gains include an increase in organic production, contributing either to the soil fertility, or nutrition to a head. Similarly, farmers can support agricultural production during drought and generate income as a result of the increase in crop prices in the markets. Finally, techniques for collecting and using rainwater allow both an intensification of agricultural production and an increase in the value of work, thus, enabling farmers to fulfill the objectives of intensification set by the government and, thereby,

increase farm income and the need for labor, which will help reduce rural unemployment and poverty[15].

2 - Projects of Congo Basin Forest Fund

Launched on 16 June 2008 by the British Prime minister Gordon Brown, the prime Minister of Norway Jens Stoltenberg and the President of the Bank Group, Donald Kaberuka, the Fund for Congo Basin Forest aims at supporting projects that address climate change by slowing the rate of deforestation in the Congo Basin and reducing poverty to about 50 million people living in the Congo Basin.

With a surface area of 161,987 hectares of dense forest[16], the annual rate of gross deforestation in the Congo Basin is 0.17% per year. Forests play a crucial role in climate change by sequestering or storing large amounts of carbon by absorbing $C0^2$ when they grow. Stopping or slowing the speed at which these forests are destroyed is essential to their continued storage of carbon and the ecological "services" they offer, including biodiversity, watershed protection and recreation.

As the second largest tropical forest area in the world, the rainforest in the Congo Basin stores a high percentage of carbon storage. Curbing deforestation in the Congo Basin may provide a cost effective way to reduce greenhouse gas emissions worldwide.

Based on open and competitive invitation to tender, projects are selected and evaluated according to four criteria: (1) innovation (improvement) of existing approach to a different national context, and so on (2) A proposal pertaining to transforming the improvement of livelihoods of people living in forest areas (3) compliance with the general objectives of CBFF (reduce deforestation and poverty of the local population) and (4) compliance with the priorities of the strategic plan for convergence Forestry Commission of Central Africa (COMIFAC).

Parralel to this invitation to tender, a permanent identification approach without competition is open only to government projects, those of COMIFAC and its related institutions.

The first call for proposals for funding from CBFF was launched in June 2008. Of the 188 conception notes received, the Board of directors approved15. They have an average of 3 years and financing estimated to be 15 million Euros. Located in Cameroon, it is a project that is an alternative to the destruction of mangroves for income-generating activities for women in Central Africa. The project was developed by the NGO Organization for the

Environment and Sustainable Development (OPED) and aims at reducing the intensive use of mangrove wood by women for drying fish which is responsible for 80% of deforestation in South Cameroon. It calls for a technology that will reduce the dependence of women in forest ecosystems of mangroves, post-harvest losses and boost economic growth by increasing local revenues from sales of fish and lobster.

Another project on innovative and sustainable management is run by African Wildlife Foundation (WWF) in the province of Equator in the Democratic Republic of Congo. It attempts to carry out socio-economic studies on the use of forest resources and extraction methods at the site of Bongandanga, as well as studies on the chain of control of systems of marketing certain non-timber products. Not only will it help improve the quality of life of some 25 000 inhabitants of the region, but it will also serve to improve the management of forest resources and reduce deforestation.

Also in the field of forest resource management, Rainforest Alliance received a grant from CBFF for three years to carry out a project "Conservation and improvement of lives through the sustainable management of logging operations in Cameroon." This project, under the Forest Stewardship Council, aims at supporting 12 communities which approved forest management programs including a certification process for wood and non-timber.

Moreover, if the contribution of sustainable development to the revival of African economies is incidental, it is still evidenced by the reduction of poverty, income generation and employment creation, and partly by technology transfer and promotion of energy efficiency. The practice of environmental projects offers an economic opportunity to African countries; even if these are just opportunities for the moment. It is therefore the responsibility of relevant States to establish a legal and socio economic environment for their implementation. This is precisely the stumbling block which affects the effectiveness of environmental projects in Africa, and consequently the effectiveness of the implementation of sustainable development.

We could also mention as a type of project, the phasing out of shifting cultivation using the bio tank in 10 pilot villages in Equateur Province in the DRC. This project promotes the use of an organic char for maintaining soil fertility, improving crop yields, and the permanent sequestration of carbon.

As for projects related to protected areas, they are numerous and variously implemented. Africa seems to be at the forefront of this trend[17]. According to the update definition of the IUCN (2008) « une aire protégée est un espace géographique clairement

défini, reconnu, consacré et géré, par tout moyen efficace, juridique ou autre, afin d'assurer à long terme la conservation de la nature ainsi que les services éco-systémiques et les valeurs culturelles qui lui sont associés ». Protected areas provide a cost effective solution to fight against climate change.

An example of protected areas include the Dja Wildlife Reserve in Cameroon. Surrounded by a loop of the River Dja Wildlife Reserve, it covers an area of 5260 km^2. Devoid of marked relief, it is covered with evergreen rain forest of low altitude (600 to 800 m) belonging to the Cameroon-Congo forest estate.

Though created in 1950, the Dja Wildlife Reserve has been under effective development only since the implementation of ECOFAC (Forest Ecosystems in Central Africa) in 1992. The high isolation of the area, the existence of many villages in the periphery and inside the reserve, which have been exploiting agricultural and forest lands since the last century, led ECOFAC to focus its action on a rural development approach, in an attempt to reduce unsustainable harvesting in the reserve.

In striving to open up the region through the creation of independent groups using the techniques of intensive labor (LI), and the rehabilitation of tree crops (cocoa, coffee), the component aims at developing activities and alternative income sources to reduce hunting. Valorization of local and resources and materials allowed the reopening of tracks at low costs and setting up development-conducive infrastructure in the area, while employing many people and ensuring maximum impact of project funds in the local economy. It should be noted that, in this context, ecotourism can also generate funds and improve the revival of both the local and national economies.

3- Ecotourism

Ecotourism is increasingly presented as an activity that helps balance conservation and development, particularly in Africa (Lapeyre et al. 2007).

This concept of ecotourism is largely based on the gradual rejection of "mass tourism" which in many cases, is the cause of environmental degradation. Ecotourism is a type of tourism which tries to meet the "needs of nature", of tourists (usually Western tourists), while providing economic profits to populations or countries visited and ensuring the sites preservation. Ecotourism is widely conceived and presented as a tool for nature conservation and development: preserving nature and culture, generating economic benefits for communities and countries visited. There is a wealth of ecotourism

projects around the world. In Cameroon ecotourism activities are organized in the village of Ebodje. At the instance of the Campo-Ma'an Project (Project Development and Biodiversity Conservation Campo-Ma'an), ecotourism was introduced into Ebodje – a village 50 km from Kribi and 25 km from campo – in March 1999. That same year, a committee on Ecotourism "Ebotour" was created in that village.

The project stakeholders were the populations acting as the project owner, SNV and its leaders as coaches, facilitators and technical partners (contractor) and MINTOUR (Ministry of Tourism) as regulators in the role of the State[18].

It is noteworthy that the development of tourism in general and ecotourism in particular, allowed the village to enjoy some of the following achievements:

- The Construction of 10 modern bread factories in the village by the PCM;
- The construction of a drinking water well by the same project;
- The re-roofing of the church thanks to a 1.5 million CFA francs donation, given by a Dutch tourist;
- Benches for the church;
- Presents offered by tourists were given to the students of the village primary school;
- SNV also helped houses owners (hosts) rehabilitate their homes or build new houses. In this regard, within the contract for the building of reception facilities in Ebodje, SNV / PCM provided technical and financial support to the committee, for the rehabilitation of three stop-over huts estimated at FCFA 3,970,250 (three million nine hundred and seventy thousand two hundred and fifty francs CFA);
- Capacity building for service providers and members of the executive bureau.

Thus, the installation and development of ecotourism in Ebodje made provisions for job creation in new areas (inexistent in the village) such as accommodation, catering and tourist guiding, with a visible impact on the local economy.

In Cameroon, ecotourism is also practiced in an organized manner in Buea, by Mount CEO (1988) – Mount Cameroon Ecotourism – an organization funded by the German Cooperation, which, offers ecotourist services in the region of Mount Cameroon. The organization signed a partnership agreement with MINTOUR in 2006 for the operation of ecotourism on Mount Cameroon. This local organization is made up of 15 village committees involved in ecotourism and Fako rural communities.

It manages ecotourism on Mount Cameroon in Idenau subdivision, in partnership with the town council.

The annual benefits of ecotourism development are distributed as follows: 5% to the rural municipality of Buea, MINTOUR 3%, 15% to 15 ecotourism village committees for implementing micro-development projects (Boteva and Mapanje Community hut, drinking water supply for Bokanongo, agricultural support). The rest goes to the organization's functioning, the payment of guides and carriers. The distribution method is different in the region of Bakinguili, where the town council Idenau receives 50% of annual benefits generated from ecotourism by Mount Bakinguili CEO. The rest is used by the Bakinguili Ecotourism Group (BACOFMAC) to pay guides, carriers, to ensure the functioning of the NGO and the implementation of mini-development projects[19]. In addition, Mount CEO provides employment and training, as carriers and guides, to the populations of village-patners. Today, 200 carriers and 53 guides of which 33 work at Mount CEO were trained. It carries out activities of sensitization of poachers for their conversion into guides; it trains village committees for ecotourism, and sensitizes the populations of the region of Mount Cameroon to the concept of ecotourism.

We note, from the foregoing, that the contribution of eco-tourism, as an environmental project, is significant in the economic sphere to these various local communities. Ecotourism improves job creation and capital investment. Promoting ecotourism in developing countries, offers a potential for this project to generate substantial revenues that can contribute to improving the standard of living. This, in return, will reduce the exploitation of these areas by the populations and allow the preservation of the environment and even the restoration or rehabilitation of natural sites and habitats already degraded. It is therefore suggested that ecotourism will provide direct and indirect income for local populations through site visits, job creation for locals, the improvement of the local economy, the selling of products and the incentive for job creation for the local population.

II- THE LIMITED CONTRIBUTION OF SUSTAINABLE DEVELOPMENT TO THE RECOVERY OF AFRICAN ECONOMIES AND THE EFFECTIVENESS OF THE IMPLEMENTATION OF THE ENVIRONMENTAL PROJECTS

The limited contribution of sustainable development to the revival of African economies is the result of the existence of legal and institutional barriers on the one hand (A) and other obstacles pertaining to technical and financial support on the other hand (B).

A-The weight of legal and institutional barriers in the implementation of sustainable development in Africa

We will first examine the legal obstacles (1), before considering the institutional barriers (2).

1 - Legal barriers

The implementation of sustainable development in Africa is faced with the inadequacy or the lack of domestic legal standards for the reception of initiatives developed at international level. In Cameroon, for example, the only text which makes provisions for the application of the CDM is the decree of January 16, 2006 on the establishment, organization and functioning of the National Committee for the implementation of the clean development mechanism. No other text determines the legal framework for the implementation of projects carried out by foreign investors in Cameroon so as to define a realistic framework, which should be as attractive as possible for them.

Statistics show that at the regional level, this is an obstacle that is widespread on the continent. Indeed, a total of 47 CDM projects are approved and implemented by the AO-CDM, against 1001 for China alone and 546 for India. Brazil accounts for 179 projects, 123 in Mexico, 86 in Malaysia, 48 and 42 in Indonesia and the Philippines respectively. Central Africa has the second largest forest in the world in addition to the huge wealth of its biodiversity; but the region is known only for two projects, which are considered to be in Central Africa: one in Cameroon and another in Rwanda.

The situation is even worst as far as REDD projects are concerned. Indeed, currently, there is no law in Cameroon which defines the terms for implementing the REDD process. This obtains in most Central African countries, except the Democratic Republic of Congo, where there is no REDD process.

In addition, there is lack of coordination between CDM standards and other environmental standards. This is the case in Cameroon where the decree of 2006 does not refer to the Framework Law on Environment of 1996, let alone to Law N°. 94/01 of 20 January 1994 organising forestry, the Wildlife and Fisheries.

2 - Institutional barriers

The decree of 2006 on the establishment, organization and operation of the CN-MDP in Cameroon does not provide for coordination or cooperation among members of the Committee. Moreover, even if Article 3 is trying to respect principle 10 of the Rio Declaration on the representation of all social groups, the composition is heavily occupied by government actors who are over-represented. There is lack of collaboration between these actors in a view to objectively analyzing the projects submitted to them. It is actually amazing to see a project rejected by the AOD, while the same had passed the milestone of the DNA internally. The recurrence of this situation leads to questions about the competence of members of the NC-CDM. The Minister for the Environment and Nature Protection, still, is responsible for overseeing this body, raising the question of the real authorities deciding on the validation of the projects. The Secretariat of the Committee is chaire by the focal point "climate change", the one-stop shop for registration of projects submitted for validation. The Secretariat should also promote the potential of the country for attracting investors. But in reality, the focal point limits itself to wait for the reception of projects and raises no questions regarding its responsibility for the low average of projects reviewed by the NC-CDM, in comparison to the potential of the country.

With regard to REDD, just as no national legal text organizes its implementation, there is no focal point for the REDD project today. Projects that are funded by international financial institutions (including ADB) are also monitored and evaluated by the same. The State is almost absent in organizing the implementation of environmental projects in its territory. It should be noted that in addition to institutional barriers, there are technical and financial obstacles to the effectiveness of sustainable development in Africa.

B-Technical and financial obstacles to the effective implementation of sustainable development in Africa

The analysis of technical barriers (1) to the effectiveness of sustainable development in Africa will precede that of other obstacles (2).

1 - Technical barriers

The African delay in the environmental field may also be explained by the market's immaturity for promising technologies in Africa. In terms of environmental projects, the requirement for the necessary technical expertise is still lacking. Unfortunately, expertise in environmental matters is very low in developing countries, even though the number of

programmes and initiatives is growing internationally. It is important to merge knowledge on reliable and timely technology, to the technical mastery of the tools and procedures institutionalized in the field of sustainable development. These prerequisites are necessary to offer a credible project. Indeed, it appears that many projects are rejected because they are non-compliant or irrelevant. furthermore, there is lack of expertise associated with the lack of training for developers to justify the fact that projects do not prosper. The African knowledge in this area and the capacity of its forestry sector to address climate change are low.

The low level of technicity is also deplorable in the composition of certain National Committees CDM. In Cameroon, for example, representatives of various ministries are found alongside those of the civil society, and GICAM SYNDUSTRICAM. Although paragraph 3 of the decree of January 2006 provides an opportunity for the President of CN-MDP to call an expert, one wonders if they have the technical capacity to understand a project and its evaluation. Their competence in this area tends to be questioned when projects which have been approved internally, are rejected by the designated Operational authority. Unfortunately, this is the route that follows most projects in Cameroon and Africa in general.

This analysis also applies to FAE and CBFF projects. Indeed, only the most competitive projects are selected on the basis of detailed proposals for a grant from ADB. Thus, in 2008, of 188 projects submitted by NGOs, the Board of Directors of ADB approved only 15. In 2009, 82 project proposals were selected from the 381 project proposals received.

2 - Other obstacles

In the context of other obstacles, we will focus more on international mechanisms of carbon such as the CDM and REDD.

The CDM is now an important tool, although its environmental integrity still raises questions. Some argue that the current CDM does not reflect the actual emission reductions, and, therefore, represents little more than a forum for the transfer of wealth. They also indicate that the current CDM market does not reflect current reductions emission (Wara and Victor, 2008). Each CDM project must demonstrate its complementarity, or demonstrate that the GHG emission reductions are greater than those arising in the ordinary course of business, and in addition to any emission rate that would be obtained without the project. Although the project is expected to be carried out regardless of obtaining the benefits of the CDM, this

understanding does not represent the real emissions reductions. Evidence of complementarity has been a real challenge and a controversial aspect of the CDM.

Another point of controversy lies in the ability of CDM projects to contribute to sustainable development. It calls on all host countries to evaluate projects in order to ensure that they are consistent with their sustainable development objectives. There was a range of different approaches adopted by countries for screening projects to achieve these goals. In this regard, projects for the destruction of HFC-23 and nitrous oxide are the most controversial; these projects lead to criticism about their inability to contribute to sustainable development, and their potential to attract investment in areas of renewable energy and energy efficiency - areas that represent huge benefits for sustainable development.

Investors do not fund many environmental projects in Africa because they are small-scale projects. Regarding the CDM, the ultimate goal of a project is to generate real and measurable reductions in greenhouse gas emissions. Investors are interested in Units Certified Emission Reductions from projects that can be quantified under the Kyoto Protocol. Therefore, the larger the project funded, the higher the chances of obtaining consistent carbon credits. Hence, the preference given to projects developed and implemented in countries such as China, India and Brazil that have the added benefit of developing the advantage of large projects.

With regard to REDD, it is important to indicate that there are some uncertainties about the importance of emissions from forestry and other land uses. Questions also persist on the monitoring, permanence, scenarios reference and leaks. These issues have contributed to the decision not to include CERs generated by the activities of forestation and reforestation under the CDM in the European system of trading emissions. Also, some developed countries such as Canada, have indicated their decision not to allow the use of CERs resulting from the forest in their systems for trading emission. The limited presence of investors in Africa should be taken into account.

CONCLUSION

Though Africa is more concerned about the fight against poverty and underdevelopment, it is not devoid of interest in sustainable development, especially since the Rio Conference held in 1992. Protecting the environment is no longer seen as an obstacle to development. On the contrary, it is associated with sustainable economic development and respectful of environmental concerns.

Different mechanisms are thaught at international level to protect the environment. However, they frame the issue of economic development in developing countries. Therefore, various environmental projects such as CDM, REDD, the MEF or the CBFF involve not only the protection of the environment on a global scale, but they also contribute to the recovery of the economies of host countries of these projects, although there are still many difficulties in the implementation of these projects.

However, if the path to sustainability seems politically correct for an economic recovery today, it is still important to consider the real economic consequences of this policy on development. Indeed, it is recognized that a strong and stable economic development is first and foremost based on big industries. Renewable energy such as wind, solar and other forms developed in the framework of environmental projects in Africa, cannot cope with such industries as it is important to note that before opting for renewable and cleaner energy, western countries developed their foundation for industrial development with energy resources such as coal or hydropower. To some extent, this shows the level of development targeted by African countries.

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[1] Principle 4: "To achieve sustainable development, environmental protection must constitute an integral part of the development process and cannot be considered in isolation"

[2] Principle 3: "The right to development must be fulfilled so as to equitably meet developmental and environmental needs of present and future generations."

[3] DUPUY (P.M.), « Où en est le droit international de l'environnement à la fin du siècle ? » *RGDIP*, T. 101, 1997-4, p. 886.

[4] LIPIETZ (A), « Les négociations écologiques globales : enjeux Nord-Sud », in *Après le Sommet de la terre : débats sur le développement durable*, *Revue Tiers-monde*, n°137, Janvier-Mars 1994, p. 34.

[5] COMELIAU (C), « Développement durable ou blocages conceptuels ? » in *Après le Sommet de la terre : débats sur le développement durable*, *Op. cit*., p. 63.

[6] TUBIANA (L.), « La négociation internationale sur le changement climatique », in *Le Protocole de Kyoto mise en œuvre et implications*, Strasbourg, Presses universitaires de Strasbourg, 2002, p. 30.

[7] Article 12 (5) of the Kyoto Protocol. There is a controversy exists on the fact of considering activities related to nuclear energy, forestation and protection against desertification can be included in the Clean Development Mechanism

[8] ZHANG (R.), « Le Protocole de Kyoto et les pays en développement », in *Le Protocole de Kyoto mise en œuvre et implications*, Strasbourg, Presses universitaires de Strasbourg, 2002, p. 48

[9] BOISSON de CHAZOURNES (L.), « De Tokyo à la Haye en passant par Buenos aires et Bonn : la régulation de l'effet de serre aux forceps », *Annuaire français de relations internationales*, 2000, Vol. 1, p. 716.

[10] BONDUELLE (A.), « Les dix défauts du Protocole de Kyoto », in *Le Protocole de Kyoto mise en œuvre et implications*, Strasbourg, Presses universitaires de Strasbourg, 2002, p. 77.

[11] BOCKEL (J.M), « Le Protocole de Kyoto : contribution des Parlements et des collectivités locales au processus de lutte contre le changement climatique », in *Le Protocole de Kyoto mise en œuvre et implication*s, *Op. Cit*., p. 140.

[12] BOULANGER (P-M), *Les projets MDP et le développement durable*, Institut pour un développement durable, avril 2004.

[13] Source: *A review of carbon sequestration projects*, Land and Plant Nutrition Service, Land and Water Development Division, Food and Agriculture Organization of the United Nations, Rome, 2004, pp. 26-28.

[14] Adopted at the UN Conference on Climate Change COP 13 through the Bali Action Plan, paragraph 1 b (iii)

[15] Rapport d'évaluation, Projet pilote pour l'introduction des techniques de collecte et d'utilisation des eaux de pluie, Rwanda, 2006.

[16] Area for six central african countries, *Les forêts du bassin du Congo, Etat des forêts* 2008, p. 19

[17] Fréderic GIRAULT, Sylvain GUIYOT ; Myriam HOUSSAY-HOLZSCHUCH, « Les aires protégées dans les recompositions territoriales africaines », http:/hal.archives.fr/docs/00/18/56/81/PDF/IG.pdf. (Consulté le 28 octobre 2010).

[18] Ebodje is a coastal village located on the axis Kribi-Campo, 25 km from Campo (Head Place District to which it belongs) and 50 km from Kribi, capital of the department of origin. It covers about 2700 m and has approximately 800 inhabitants of the ethnic lyase, all speaking the dialect of the same name. The village is headed by a chief and council of notables.

[19] Functional Framework of Management Site-Mount Cameroon Project Pathway Growth Competitiveness (PCFC), Ministry of Economy, Planning and Regional Planning, April 2010.