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## **ENVIRONMENTAL DEGRADATION AND CONSERVATION IN THE CROSS RIVER AREA: A HISTORICAL APPRAISAL OF COLONIAL AND POST COLONIAL INTERVENTIONS**

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### **Abstract**

*Environmental degradation in Africa has been a recurring decimal due to lack of awareness, harmful traditional practices and other forms of neglects. The Cross River Area of Nigeria has suffered all of these problems. Covering a land mass from the mangrove and fresh water swamp on the coast through the tropical rain forest to the grassland on its northern fringes, the region contains one of the largest surviving tropical rain forests, South of the Sahara. These forests serve as habitat for rare species of several flora and fauna. Over the years, these forests have been persistently degraded by the inhabitants of the region through felling of trees in the mangrove swamp for firewood, cutting of trees in the rain forest for timber and firewood, bush burning for farming, poaching of animals and other industrial activities, all these activities constitute problems to the environment. There have been several awareness campaigns by international organizations, national bodies and local groups to conserve the environment and stem the tide of this degradation. These campaigns have to some extent controlled the spate of*

*degradation but the problems already created are evident within the environment. This paper would examine environmental degradation in the region and the activities of national and international organizations to combat this menace and conserve the environment in the Colonial and Post-Colonial period. The methodology adopted here is inter-disciplinary approach making use of several available literature on the subject matter. It was discovered that Government and non-governmental agencies over the years have been intervening in a bid to curb environmental degradation. However, these interventions have not yielded the much needed results envisaged.*

### **Keywords**

Environment, Degradation, Conservation, Colonial, Post-colonial, Intervention

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## **1. Introduction**

The sustenance of human life over the years from age to the other of man's existence on planet earth has been dependent on the environment within which they find themselves. There has been constant and sustainable manipulation and adaptation over the years with man using and exploiting the physical features and vegetation of their environment for food and shelter. As population increased and different systems evolved, the level of exploitation of the environment increased and all these activities by man within the environment has subsequently led to some form of degradation of the environment over the years. The African continent as a part of the world has experienced various forms of degradation within its different regions. This degradation now calls for a concerted effort at conservation without which whatever is now left may be totally lost in the nearest future.

According to Marston, Knox and Libermann (2008),

*“African Ecosystem as in the rest of the world are closely tied to climatic condition but also reflect a complex evolutionary history and physical geography that has produced great diversity, unique plants and perhaps the world most charismatic community of animal species .... Forests make up about 20 percent of the African land area. These forests have great biodiversity which includes monkeys and apes such as ‘chimpanzees and gorillas and tropical hardwoods of significant economic value such as mahogany.*

*The forests are daily threatened by demands for timber and fire wood by poaching and foraging and by conversion of natural habitat to cropland.”*

Over the years, there have been increased interests in environmental issues across the world. This has been due in large part, to the increasing awareness of the threats posed by continuous degradation or depletion of the global commons such as air, oceans, fresh water resources, fish stock, stratosphere, ozone layer and so on (Aremu, 2013). Government and non-governmental agencies have been making policies and organizing programmes and strategies for the proper management of the environment. However, the proper implementation and evaluation (or lack of it) of these policies, programmes and strategies has led to the degradation of the environment to the detriment of all. This paper seeks to interrogate the various government and non-governmental interventions.

The environment has been defined in several ways: Ecologically, the environment is the sum of all external conditions and influences affecting the life and development of organisms (McGraw Hill, 1971). Also, another author defines environment as the factors constituting an organism's surroundings, the most important being those components that influence the organism's behaviour, reproduction and survival (Americana, 2005). It is therefore a net of surrounding conditions that acts on a place or person and give it a certain character. We shall be concerned mainly with the physical environment which consists of rocks and soil, air and water as well as such factors as light and temperature and other organisms present.

Degradation is the process of being damaged or made worse (Hornby, 2010). This is characterized by deforestation, species extinction, global climate change, desertification and over-population. Environmental degradation has also been defined as any change or disturbance to the environment perceived to be deleterious or undesirable (Johnson et al, 1997). Considering the above definitions of environment which center on the organism (living thing) and its surroundings, it is quite pertinent to note that for the organisms to live, and continue to exist, the conditions under which they live must be consciously sustained and not degraded (damaged). Whenever natural habitats are destroyed or natural resources are depleted, the environment is degraded. Degradation occurs when the natural resources of the earth is depleted and the

environment is compromised through extinction of species, pollution of air, water and soil caused rapid growth in population and increased human activities.

In the Cross River region of Nigeria on the West Coast of Africa, there has been a gradual degradation of the environment due to the wanton exploitation of the State's forest reserves and solid mineral resources. This has been due to the increase in the scale of human activities, the shift to highly resource-intensive forms of agriculture and industry and rising standard of living (Americana, 2005). Added to these is the commercial logging for industrial utilization of tropical hardwood for several purposes (Northcott, 1999). Therefore, the advancement in resources-acquiring method and other human activities as mining, fishing, farming and logging have had increasing significance and often deleterious impacts on the environment. Population growth has also contributed to environmental destruction while soil erosion has been accelerated by human activities such as farming, construction and mining, all of which have stripped vegetation from the soil. Soil erosion reduces the long term productive capacity of the land and lowers earth's carrying capacity which leads to the degradation of the topsoil. It also destroys habitats on which other species depend (Americana, 2005).

The rapidly growing human population is consuming, co-opting or wasting a major portion of the environment and this has led to the extinction of many species of plants, animals and micro organisms. Waters are being polluted at alarming rates and there have been Urban floods and river inundations (Ekpoh, 2002). All these points to the fact that major changes are taking place in the earth's environment. Over the years, there has been concerted effort in the struggle against environmental degradation. (Ekpoh, 2002).

## **2. Cross River State environment: Land and features**

The Cross River State as delineated on the map of Nigeria is a part of the larger Cross River Region which covered some areas which are now part of present day Akwa Ibom, Ebonyi and Benue States of Nigeria and Western Cameroun Republic. (Ntukidem, 1990).

The Cross River State is made up of 18 Local Government Areas. For its physical environment, the land enjoys abundant sunshine and rainfall like other regions within two marked seasons. The rainy season begins at about May and lasts till the middle of October, while

the dry season, which takes up the remaining months. Places along the coast like Calabar, the State capital has appreciated rainfall throughout the year (Ntukidem, 1990).

The variety of landforms in the Cross River State is clothed by vegetation that shows a bewildering variety. The coastal marshes and the swamps support srewpines, giant palm, mangrove trees and innumerable species of oil and raffia palm. The uplands beyond the coastal plains are dominated everywhere by palms. Where the lowlands give way to undulating upland topography, thick forests are found. Extensive areas of high forest are more abundant on the left bank of the Cross River, from Calabar through Oban and beyond. The forests are broken only at few places by cocoa and oil palm plantation. On the Northern verge of these forest lands, especially on the North West sector, grassland dominates. There exist tall seasonally regenerated grasses amidst scattered trees which have resisted annual burning (Ntukidem, 1990).

Cross River State harbours the largest percentage of the surviving forest in Nigeria. It is said that 50% of the remaining forest in the whole of Nigeria is found in Cross River State. The State is also recognized as one of the 25 bio-diversity hot hotpots in the world (Giant strides, 2010). The Cross State forest is an enviable asset to the State and Nigeria at large as it can boast of over 400 species of tree varieties, around 170 species of reptiles and amphibians, 140 fish species, 425 out of 904 bird species in Nigeria including the rare species of Gorillas, Chimpanzees and Drill Monkeys. The State holds a lot of attraction to eco-tourist, nature lovers and pharmaceutical researchers among others (Giant strides, 2010).

This land and features described above have over the years been degraded as a result of several activities which will be discussed in the following section.

### **3. Degradation of environment in Cross River State**

A major challenge of sustainable development in any community is the relationship between land and environmental degradation. Land like other basics of human existence is central to the social and physical reproduction of all humans. (Tade, 1992) Therefore, environmental degradation in Cross River State has been primarily associated with the land. We shall discuss some of human activities on the land that has subsequently led to environmental degradation over the years.

Quarrying for clay, gravel and stones, excavations for laterite and sand are common features in many different parts of the State. Over the years, these activities (quarrying and excavation) have assumed new dimensions due to the increasing tempo of infrastructural development in the country particularly in the transportation and housing sectors. The consequence of these activities is the emergence of burrow pits along major highways and also within some urban towns and suburbs. Excavations for sand and gravel from rivers and their banks have largely contributed to environmental degradation. The activities of men and vehicles (Tipper lorries) on these locations have been consistent and devastating. This has enhanced the role and extent of soil erosion, which is accompanied by landslides along deeply excavated portions of the banks during the rainy season. Stone quarrying though socially and economically desirable constitute a form of environmental degradation as its activities upset the balance of nature. No effort is made to rehabilitate the areas from where the stones have been removed. This usually set in motion soil erosion and occasional landslides as evident in Akamkpa Odukpani, Akpabuyo and Calabar Municipal Local Government Areas of the State.

Unprecedented population growth has meant increased demand for food, forest products, minerals and also wildlife. In ensuring man-environment interaction, different forms of environmental degradation have taken place. Ecologists argue that most developing countries are crowded to the point where the levels of human activity involves a systematic degradation and depletion of available natural resources such as soil, water, forest and fisheries (Northcott, 1999). These human activities include poor agricultural activities such as over cropping, tiling along slopes, bush burning and hunting of wild life. The poor agricultural activities render the soil incapable of high agricultural yield and accelerate sheet and gully erosions. Soil erosion leads to stream channel siltation causing many of the streams today to be shallow, polluted and drying as a result of human activities that have degraded them. Bush burning has destroyed and in some cases, obliterated some plant species. It has also destroyed soil nutrients as well as some organisms, which play vital roles in soil health. The use of chemical fertilizer has equally brought in its wake a dimension of environmental degradation. Nitrates in fertilizers have found their way into streams thereby polluting them and this leads to widespread destruction of aquatic life. Also, the contamination of food grown in nitrate –overloaded soils is of key concern. Fish

catch has declined considerably as the water bodies have become progressively shallower and more polluted thereby degrading the mangrove swamps, which provide rich breeding grounds for instore tropical fish (Northcott, 1999).

Unregulated and indiscriminate clearing of forests for agriculture and for other forest products, constitutes environmental degradation because the cutting down of trees and massive clearing of the land disrupts the ecological balance as evident in Akamkpa, Ikom, Etong and Boki Local Government areas of the State. Apart from soil erosion and stream siltation, forest clearance leads to impoverishment of the soil through faster organic matter decomposition and excessive leaching. The decline in the fertility status of the soil leads to reduction in the population of the microflora and microfauna and their activities. Persistent bush clearing over the years has led to the development of the savanna in some parts of the State such as Abi Local Government Area.

Hunting and gathering has contributed to environmental degradation. Some wildlife species have become extinct or almost extinct through hunting and others are endangered. Examples of such endangered species in Cross River State are the Drill Monkeys, Gorrillas and bush cows. This threat is most evident in Akamkpa, Etung, Ikam, Odukponi and Boki local government areas.

Soil erosion as earlier stated is a major component of environmental degradation. In Cross River State, the soil erosion is caused primarily by rainfall and bank erosion which affects the coastal region and major water ways. Gully erosion afflicts most Southern parts of the State and has led to truncation of transportation bases and routes, collapse of building, loss of wildlife habitat, disruption of water works, reduction of soil fertility and recreational potentials, diminution of rangeland and farmland, damage to electricity installations, loss of livestock and ultimately loss of human life. Several measures have been taken to combat soil erosion by the State and Federal Governments. In spite of these, a lot of land is still lost to erosion than is being reclaimed from it.

Fuel wood is the primary source of domestic energy supply in Cross River State particularly in the rural areas. At present, the production of fuel wood is not limited to dead wood. Fresh trees are cut down and stacked for commercial purposes, which include for use as

chewing stick. This activity has endangered the diversity of indigenous tree species beyond regeneration levels with the resultant effect that many forest ecosystems have degenerated into savanna or grasslands because of excessive felling of trees for fire wood. A drive through the different major roads and beaches within the State reveals this menace to the environments. In the Southern Local Governments, the ecosystem of the mangrove swamp has also been severely affected.

In Cross River State as in other parts of Nigeria, a sizeable population of the rural folk including urban dwellers depends on traditional health care delivery which relies heavily on wild biotic resources. Almost all parts of plant from leaf bud to mature leaves, exudates, barks, roots, flowers, nuts, fruits and wood through plant materials are used for health care. In view of the above fact, most tree species are destroyed by de-barking, up-rooting, removal of leave or by felling. The impact is that many of the species involved hardly regenerate after harvest.

#### **4. Efforts made to check degradation and conserve environment**

With this quality of rich physical environment within Cross River State and the attendant degradation, there have been concerted efforts over the years by different governments and non-governmental organizations to protect and sustain this environment in various ways.

##### **4.1 Colonial era**

During the Colonial era, between 1912 and 1960 the colonial authorities constituted a total of 6,101 sq kilometers of tropical high forest into forest reserves within the Cross River area.

The table below outlines the various delineations.

**Table 1:** *Cross River Area Forest Reserves*

<b>S/no</b>	<b>Name of forest</b>	<b>Size (Ha)</b>	<b>Size (Km<sup>2</sup>)</b>	<b>Year Constituted</b>
1	Cr North forest reserve	12,950	129.50	1930
2	CR South forest Reserve	34,965	349.65	1930
3	Ukpon River forest reserve	3,139	31.39	1930
4	Agoi forest reserve	4,662	46.62	1940

5	Ekinta River forest reserve	10,878	108.78	1953
6	Uwet Odot forest reserve	28,490	284.90	1930
7	Umon Ndealichi forest reserve	10,878	108.78	1930
8	Lower Eniong forest reserve	2,849	28.49	1930
9	Ikrigon forest reserve	529	5.29	1928
10	Afi River forest reserve	38,332	383.32	1930
11	Yache forest reserve	1,554	15.54	1931
12	Gabu forest reserve	518	5.18	1960
13	Ikom fuelwood plantation	106	1.06	1960

Source: Giant strides (2010)

**Table 2:** *Forest Reserve now Constituting Cross River National Park*

S/no	Name of forest reserve	Size (La)	Size (km <sup>2</sup> )	Year constituted
1	Oban group forest reserve	374,255	3,742.55	1912
2	Okwangwo forest reserve	46,879	468.79	1930
3	Boshi Extension` forest reserve	6,734	67.34	1958
4	Boshi forest reserve	4,144	41.44	1951

Source: Giant strides (2010)

The aim of creating the reserves was for effective management and controlled exploitation of the forest with the full awareness that sustainable management of forest resources will provide a sound economic base for the State. (Giant strides, 2010).

#### **4.2 Post-colonial Era**

With the attainment of independence, new successive State administrations have found the sustainable management of the environment and forest resources intractable and a big challenge. Cross River environment and forest have been exposed to wanton exploitation and rapid degradation as a result of ignorance, poverty and greed on the part of the people, supervising agencies and those doing business with forest resources.

For a long time, there had been no State wide or comprehensive legislation on environmental degradation. However, in recent years there have been attempts by government, communities and Non-Governmental organizations (NGOs) to check environmental degradation in the state. As the second most afforested State in Nigeria, which contains the largest remnant of relatively unlogged and mature Tropical High Forest (THF) in the country about 30% of the nation's last vestiges .(Giant strides, 2010) the government and other agencies have been making some concerted efforts to check the degradation of the environment. These include:

## **5. Conservation**

Conservation has been defined as the management of human use of the biosphere so that it may yield the greatest sustainable benefits to the present generation while maintaining its potential to meet the needs and aspirations of future generations. (Giant strides, 2010). Thus conservation involves the controlled use of the resources of the natural forest in such a way that its capacity to renew itself is not impaired. It ensures the continuity of the benefits derived from the forest. These benefits include the provision of raw materials for wood based industries, protection of watersheds, minimization of erosion, stabilization of soil, amelioration of climate and provision of habitation for wild life. The reasons for conservation include:

- To maintain essential ecological process and life support systems
- To preserve genetic diversity and
- Ensure the sustainable utilization of species and ecosystems. (Giant strides, 2010).

As part of its conservation effort, the Cross River State Government placed a logging moratorium for two years (2008-2010). During this period, there should be absolutely no cutting of trees. Revenue target given to the Forestry Commission was removed and the Commission was directed to plant 5 (five) million trees per year during the 2 (two) years moratorium. (Giant strides, 2010). In order to further protect and conserve the immediate environment around which people live and work, the government also directed all departments in the State to set aside 30% land area for landscaping and green areas. The State also initiated environmental best practice programmes to achieve all its laudable environmental objectives (Giant strides, 2010). A task

force on anti-deforestation has been put in place to enforce these orders. All these are aimed at afforestation and restoration of the ecosystem.

The main concern of the government now is to ensure that the environmental wealth and quality is preserved in the State. This is as a result of the ethical, material, scientific, ecological and esthetic values derivable from conservation. The State is also encouraging eco-tourism as a tool for generating economic and socio-cultural benefits for the forests and other natural resources while simultaneously conserving these (Giant strides, 2010).

Despite the laudable vision of the State Government there, has been an obstacle to conservation. These include conversion of forest land to other uses, poverty/human economic and social needs, and ignorance of the public, inadequate funding and non-participation of wood based, firms, political reasons and inadequate legal backing of conservation efforts. (Giant strides, 2010).

In spite of these challenges, the government is still focused on its vision of conservation. This it is doing through and in conjunction with some agencies (NGOs) and government parastatals. Currently the government pays royalties to communities across the State who are cooperating with government in its conservation effort.

### **5.1 Non-Governmental Organizations (NGOs) and other Government agencies that are in partnership with Government on conservation**

**A. Pandrillus:** This is a non –governmental organization with a vision ‘To promote the survival of a much endangered and long over looked African primate -the drill monkey’ (Giant strides, 2010). They also provide homes for orphaned chimpanzees and conduct researches on conservation.

**B. Green Heart of Canada:** This agency designed and constructed Africa’s largest canopy walkway (388 metres) aluminum structure located at Afi in Cross River State. The Afi mountain nature reserve is one of the last remaining reserves for tropical rain forest in (Mofi News, 2005) West Africa. The reserve is home to the most successful rehabilitation programme for Drill Monkeys in the world today. From the viewing platform on the walk ways, one can have a bird’s eye-view of the rainforest and this serves as an Eco-tourism destination for tourism to Cross River State.

**C. Centre for Education, Research, Conservation of Primate and Nature (CERCOPAN):** This is a non-governmental organization whose mission is to “conserve West African (Nigeria’s) Primates through sustainable rainforest conservation, community partnership.” It was founded in 1995 with its headquarters in Calabar. Since then, it has been very active in partnership with the government and communities.

In 1997 they held the first education rally which prompted the starting of the renowned CERCOPAN world Environment Day children’s carnival. In 2000 they signed their first agreement with Iko Esai a focal community in Akamkpa Local Government Area. In 2001, they completed the construction of Rhoko main camp in Akamkpa and joined the pan African sanctuary Alliance. By 2003 the land use plan for Iko Esai was completed and the first monkeys were moved to Rhoko camp.

In 2006 CERCOPAN signed a Memoranda of Understanding (MoU) with the Cross River State National park. They also acquired land from the University of Calabar for rain Forest Research Institute and approved a partnership for future capacity building. In the same year 2006, it became a registered clarity.

In 2007 they conducted the first primate reintroduction in West Africa that strictly followed the IUCN reintroduction guidelines. In 2008 they played a major role in assisting the government to organize the International Environmental Summit and subsequent biodiversity action plan.

The year 2009, CERCOPAN witnessed the expansion of community work to include, Agio Ibami Iko Ekperem and Owai and in 2010, the first successful captive breeding of Sclaters Guenon was done. In the same year, CERCOPAN signed a MoU with the Forestry Department.

Their vision was to ensure that “Nigeria’s forest is conserved for people and primates and the organization undertakes primate rescue and rehabilitation, forest protection, community partnerships, environmental education, research and eco-tourism. They are also facilitating the Reducing Emissions from Deforestation and forest Degradation (REDD) programme in Cross River State. The ideal of this programme is to help slowdown the causes of climate change. This they do by first imposing a tax on the people who are polluting the atmosphere eg. Power companies that burn coal and then secondly by using the tax money to help people (mainly

farmers) stop destroying forest. The United Nations (UN) is running REDD project in conjunction with CERCOPAN in the forest of Iko Esai and the surrounding communities as a test. (<http://www.cercopan.com>)

## **5.2 The Cross River National Park**

The Cross River State National Park is an area of unique natural endowment made up of virgin tropical forests in Oban and Boki/Okwango, and offers many benefits to mankind. The rainforest of this region covers a space of 4000 square kilometers and it is relatively intact. It was established in 1991 by the Federal Government from the erstwhile reserves of Oban group of forest and Bosk/Okwango located within the State, it is contiguous to the korup and Takamanda National parks in the Republic of Cameroun.

It has a vegetation of close canopy and most tropical primary rainforest ecotypes in the Northland central part and mangrove swamp in the coastal areas. It has very rich and rare flora and fauna species and is said to be Nigeria's last great, rainforest, one of the oldest forests in Africa and part of the 25 biodiversity hot spots in the world. It is reputed to be the richest part of Nigeria biodiversity. The scientific discoveries about the rare plant species in this part have brought world attention to the part resulting in it being ruminated by the UN as a world Heritage site (CRNP Pamstat P.3).

## **5.3 Comparison of pre-colonial and post-colonial interventions**

From the above, it has been observed that almost all the forest reserve areas within the Cross River area were created in the pre-colonial era by the government. However, in the post-colonial era, there have been the activities of more non-governmental agencies in collaboration with government in creating awareness about the issue of degradation and conservation of the environment. This has made the process an all inclusive affair of the government, non-governmental agencies and the immediate communities.

## **6. Conclusion**

There is no gainsaying the fact that environmental degradation has been a reoccurring decimal over the years. However, our study has shown that government has been aware of this and there have also been conscious efforts on the part of government to curb these problems and

thereby conserve the environment. The task of conservation has however not been left in the hands of government alone, other NGOs (non-governmental organizations) have also taken keen interest in the task of preserving the environment.

Thus, with a proper education and sensitization of the people, well implemented government programmes and policies and continued cooperation and activities of the Non-governmental organizations, there appears to be hope for re-orientation of the populace for a proper management and maintenance of the environment to the benefit of all its inhabitants.

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