

# **Combating Poverty from an Environmental Perspective: The Case Study of Sub-Saharan Africa (SSA)**

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## **Abstract**

Poverty as a multidimensional subject result from a variety of factors which equally have wide dimensions and as a result requires a multiplicity and sometimes unrelated factors and tools to combat it. Even though often underestimated and/or relegated to the background, one of such factors that have exerted serious impacts on the population especially those living in the rural areas is the 'environment'. This paper examines the effects of environmental degradation on the major determinants of poverty (livelihood, health and security). It resolves that a sustainable livelihood, security, good health and a sane global environment can be ensured in the Sub-Saharan Africa (SSA) through environmental quality and a rational exploitation and use of resources. It also recommends a careful integration of environmental management programmes in all growth and development policies for the sub region as a measure to sustainably fight poverty.

**Key words:** Environmental degradation, Combating poverty, Sub-Saharan Africa, Deforestation, Global warm.

## **Introduction**

At a period when the world in general and sub-Saharan Africa (SSA) in particular is plagued with numerous and diverse socio-economic, political as well as health and poverty problems, the issue of environmental consideration in Economic Growth and Development policies is not only necessary but ideal. Not only will such considerations ensure lasting measures aimed at fighting poverty but also, towards the achievement of sustained development which will guarantee the interests of both present and future generations.

Environmental quality versus economic growth debates, which first came up in the 1960s and 1970s and later extended during the 1980/90s (Pearce & Warford, 1993), had led to changing perceptions on the traditional models of economic growth and development. These models stress on, and considered capital accumulation not only as the missing single factor, but also more as that single factor which without it, welfare will not increase. Even more, it was revealed in the 1980s that the lack of a sensitive environmental management program, economic change was doomed to be short-lived or face a trade-off with the environmental quality. This meant that one should be forgone in order to obtain the other. Therefore, the 1990s approach of development

was conceived based on a process towards shaping people's lives and welfares, but this has to be accomplished in compliance with the rules of sustainability.

Human numbers have continued to increase all over the world with regions like the sub-Sahara Africa (4.3 percent) (UNDP<sup>1</sup>, 1991) and Asia showing frightening current growth rates. This has attracted the attention of economic planners for fear of an eventual shortage of resources or crisis resulting from the wanton exploitation and use of their natural resources and environment. Even though development is meant to be human oriented, human beings by nature of their activities and egoism, continue to stake this welfare. Almost all-human activities perpetuate danger to the environment either in the form of deforestation, soil erosion, and climatic change or through water and atmospheric pollution. It is believed that such situations will limit good health, livelihood, and increase threats to security; and thus to the economic prosperity of people of the world.

With a current population growing at 2.5 percent annually (UN<sup>2</sup>, 2001) and a corresponding soil degradation rate of 26 percent which according to (UNEP<sup>33</sup>, 1997); is caused by overgrazing (59%), crop production (18%), overexploitation (17%); and deforestation (7%); Africa stands conspicuous and risks plunging into more serious problems in the future, considering that the world economy is increasingly and inextricably being linked to the environment. This is because all societies are forced to extract, process and consume their natural resources and at times abusively. This explains why Pearce & Warford (1993) believe that only rational methods of exploitation and use of such resources will permit not only avoidance of present problems of degradation, exhaustion of natural resources and poverty but also ensure that future generations have access to these resources.

The cause and effect relationship between environment and poverty has raised a serious debate between academicians, and may be difficult to say with precision, which one causes the other. This paper therefore intends to particularly examine the various ways one can fight poverty in the Sub-Saharan Africa through environmentally related components through deforestation, soil erosion, climatic changes and atmospheric and water pollution. Special concern is with the Sub-Saharan Africa region which fortunately contributes very little to present greenhouse gas emission (3.2% of total world emission of carbon dioxide) but at the same time losing 7.2 percent of its 52, 7697 thousands hectares of natural forest and 7.0 percent of its total forest area of 52, 9818 thousands hectares through deforestation alone (Forest Resource Assessment, 1990).

## **Literature Review**

In fact, man is at the centre of environmental degradation, perpetuating serious impacts ranging from soil erosion or loss of forest cover through deforestation and biodiversity, to the emission of greenhouse gases and water pollution. According to Pearce & Warford (1993), the vicious circle of population growth, environmental degradation and poverty needs to be broken in order to

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<sup>1</sup> United Nations Development Programme

<sup>2</sup> United Nations.

<sup>3</sup> Cited in World Bank (2002).

guarantee lasting solutions to impoverishment. More people in the world imply more energy consumption, more atmospheric pollution and a greater demand for both cultivable and residential lands and, all these to the detriment of wetlands, biodiversity and the ozone layer. To break this vicious circle, the carrying capacity of the resources as well as a careful elaboration and implementation of policies aimed at a sustainable use of natural resources needs to be given optimal attention.

Considering that, population growth will exert a significant influence on the development of new technologies and/or improve on existing ones, the problem of scarcity and over-use of the resources can be counteracted. Such technologies and methods should be in compliance with guided and sustainable usage policies of these resources. Even though a check on the population could break the said vicious circle, the desire for a continuous growth in world population, which currently stands at about 5.7 billions and growing at an annual rate of 1.4 percent (U.N. 1999), is certainly inevitable. Inevitable because of the need for a future strong labour force and the extensive and difficulties of realising a successful birth control action in Africa and the developing economies as a whole. Estimates for the period 2000-2005 puts Africa at the top of rapidly growing regions with an annual average population growth rate of 2.6 percent (World Resource, 1996-97).

Environmental degradation involves not only direct loses of welfare through amenities but also all indirect loses through their effects on health and productivity (World Bank, 2002). Thus, any damage done to the environment through any of its agents like institutional failures, contributions to global warming, deforestation, and loss of biodiversity is tantamount to lowering human and community's welfare. Consequently, former development models that failed to take considerations of this fact faced the problem of sustainability or durability. To World Bank (2002), environmental sustainability involves environmental stress, maintaining environmental quality and enhancing the well-being of present and future generations.

Besides population pressure which stands as the major single factor responsible for environmental degradation is what (Lambi, 1997) called the disproportionate land/resource distribution whereby the industrialized countries that constitute only 23 percent of total world population consumes about 80 percent of world resources. Meanwhile the underdeveloped south put together and representing 77 percent is left to survive on barely 20 percent of these resources. The immediate and direct consequence of this unfair distribution is that local farmers are forced onto marginal and wetlands usually considered as highly susceptible to erosion and exposed to other risks. Other such risks factors include institutional failures and misguided economic growth policies, which either give wrong signals to farmers or relegate the interests and welfare of future generations to the background. In respond to this, economic notions of the 1970s advocated for a growth-environment trade-off, since to them it was not possible to obtain growth and conserve environmental quality. In line with this, the neoclassical economic perspective theory holds that "It is not population pressure per se that cause's environmental degradation, but the mal functioning of the economy through market distortions (Orians & Skumanich, 1997).

Meadow et al (1972) see the non-consideration of environmental degradation as the "limit to growth" and emphasized that even a stationary level of economic activities cannot be sustained if the environment was not conserved. They consider conservation to be morally right based on the concern for other living species. To the dependency theorists, not only will unfair distribution of resources lead to population growth and environmental degradation but also, only a change of political systems and poverty alleviation will ensure a permanent solution to the problem of the misuse of resources.

If the population-environment cause/effect link is direct and simplistic in nature, it is not the case with environment-poverty and has created a controversy between various academies. Whereas one school of thought holds that the environment has an important role to play in explaining poverty, the second rather strongly believe poverty, especially in the rural milieu is responsible for environmental degradation. This is manifested through deforestation for fuel wood, subsistence farming as well as poor farming methods like overgrazing, short fallow periods and inappropriate ways of disposing wastes. World Bank (2001) reveals that of the 1.2 billion people living on less than U.S. \$1 per day in developing countries, between 90-95 percent of sewage and 70 percent of industrial wastes are dumped untreated into surface water. An estimated 80 percent of the rural population (which accounts for two-thirds of total world population) depend directly on land for a livelihood. Thus, because of poverty, which in its structural and transitional forms is considered as the lack of production means, education and technical skills, poor health and lack of participation in policy designing; more pressure is exerted on the available natural resource supplies and the use of unorthodox methods of exploiting them. Income inequality and other processes of impoverishment as the main causes of soil erosion and soil degradation. To him, they have the combined effect of forcing the poor into desperate survival strategies like settling and cultivating on marginal lands.

Pearce & Warford (1993) and the World Commission on Environment and Development (1987) reveals that the poor's choice to occupy the least resilient areas, practicing subsistence farming on marginal lands with relatively very short fallow periods and using the most inappropriate technologies is based on the law of options, which states that one cannot make a choice from a single option. Consequently, their poor status leaves them with no better option than what they do and how it is done.

Contrary to the first school of thought, is the belief that poverty is the direct consequence of environmental degradation. Cropper and Griffiths (1994), shares this opinion and looks at the dangers of a degraded environment to climatic variation, atmospheric and water pollution, deterioration of the forest and biodiversity, overgrazing and poor use of the soil as well as the irresponsible use of certain chemicals like fertilizers etc. To a joint report presented at World Summit on Sustainable Development (WSSD); United Nations Development Program (UNDP), World Bank (WB), Department For International Development (DFID), and ECD, were of the conscientious that environmental changes affects and deepens the crises of livelihood, health, and vulnerability to environmental hazards as well as other environment related conflicts.

Unfortunately, it is the poor who are least placed to cope with such calamities. On their part, Mink (1993); Cleaver & Schreiber (1994); Dasguta (1995); and Ekbohm & Bojo<sup>4</sup> (1999) do not only see poverty as the direct result of a degrading environment but more, as having an interlinked relationship, whereby policy recommendations will depend on the type of resources and the law regulating their usage.

## **Methodology**

The study adopts an analytical methodology, using secondary data obtained from World Bank and other publications. Individual country data have been equally used to complement regional information. Because of its multidimensional and complex nature, the author has used a variety of parameters like household incomes, land/resource distribution, health, the level of vulnerability to natural events and disasters, sustainable livelihoods and threats to global environment as indices for measuring poverty. Thus, analyses on reducing the impact of any of these factors will directly increase welfares and definitely reduce poverty.

## **Discussion and Analysis** *Environment-Health and Poverty*

In 1992, twenty-one African countries were considered to be amongst the 30 poorest nations of the world living on an average income level of about U.S. \$500 per capita. Compounded with a negative per capita income growth during the period 1980-1992 and a 2.7 percent annual population growth rate (World Bank, 2002) (the highest for any region in the world), poverty was bound to increase. Apart from East Europe/Central Asia regions, it is only in the Sub-Saharan Africa where poverty continues to be deepening and recording an increase of 3.2 percent between 1987 and 1998. All other regions witnessed a drop during the same period as visualized from the Table 1. To Bamberger (1996), the situation is explained by economic, social, political and cultural factors that are not directly related to current economic crises and the adjustment measures taken to combat the latter.

Poverty, which is considered to be a very complex phenomenon, is linked to the environment in many ways. It can be measured in terms of low incomes, unequal access to the production means, to health and educational facilities or in respect to people's vulnerability to environmental disasters and the natural threats to human security etc. Although Africa South of the Sahara (SSA) is known to be contributing very little (5.5 percent) to the emission of carbon dioxide and other greenhouse gases which harm the ozone layer of the atmosphere (World Resource, 1996-97) and thus leading to climatic variation. However, its destructive contribution to other environmental related components is quite significant. The landmark issue is therefore 'how environment affects poor health, and consequently, poverty. Poor health in Sub-Sahara African has reduced the survival rates or life expectancy and quality of life of the people as well as their capacity to carry out economic and socially productive activities. In some SSA countries, costs on treatment and or

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<sup>4</sup> Cited in Population- Environment connection (1997) by Caryn E. Orians & Marina Skumanich.

the prevention of illnesses is estimated to about 6.5 percent of a working adult's annual income (World Bank, 2002). This seriously mitigate against meeting the facilities that give a base for economic welfare, considering that these incomes are low, and the dependency rate on each income earner relatively high. In stating that environment, health and poverty extensively overlap in Africa, World Bank's "Africa Region Environment Strategy, 2002" explains that many widespread and debilitating diseases like malaria, respiratory infection and diarrhoeal stem from poor environmental conditions of water supplies, sanitation and wastes collection. In the same line, (World Development Report, 1993) estimates that the world as a whole obtained a 33 percent disease burden relieve through public health care systems alone. Based on Table 2, which presents the top five killer diseases in the SSA during the period 1990-1998, one remarks that only HIV/AIDS is not an environmentally related disease.

Table 1: POPULATION LIVING ON LESS THAN U.S. \$1 PER DAY (PERCENTAGES).

Region	1987	1998	Δ%
SSA	46.6	48.1	3.2
Latin America/ Caribbean	15.3	12.1	-21.6
East Asia	26.6	14.7	-44.7
E. Europe/Central Asia	0.2	3.7	1600
South Asia	44.9	40.0	-10.9
Mid E. / North Africa	4.3	2.1	51.2

Source: UNFPA (2000)

TABLE 2: TOP FIVE KILLER DISEASES IN SSA

Disease type	1990 (%)	1998 (%)
HIV/AIDS and other STDs	2.8	16.6
Malaria	9.2	10.6
Diarrhoeal related diseases	10.9	7.5
Acute lower respiratory infections	10.2	7.0
Prenatal conditions <sup>5</sup>	6.5	6.2
Sub total for top five diseases	39.6	47.9

Source: World Bank (2003)

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<sup>5</sup> Childhood cluster consisting of whooping cough, poliomyelitis, diphtheria, measles and tetanus.

TABLE 3: REGIONAL DISTRIBUTION OF WORLD FOREST.

Region	Total forest (hectares)	Percentage change 1981-1990
All tropical countries	1 792 030	-7.1
All tropical Africa (SSA)	529 818	-7.0
All temperate Developing country.	217 854	2.4
All temperate Africa	15 267	-4.2
Total World	3 442 369	Not available

Source: UNFAO (1990).

TABLE 4: RATE OF DEFORESTATION BY REGIONS.

Region	1960-1970 (percent age)	1970-1980 (percent age)	1980-1990 (Percentage)
All Africa	6.4	7.4	8.15
All tropical Africa	5.75	6.9	7.4
All tropical Asia	9.7	10.7	11
All tropical Latin America	5.6	6.6	7.55

Source: World Resources (1996-97)

Traditional healing is as important to the rural poor Africans who form a major part of the 1.2 billion people still living on less than U.S.\$1 a day, as is modern medicine to an a European. Although the situation can best be explained by cultural preferences, nonetheless it can also result from the inaccessibility of the former to modern treatment facilities. A wide variety of indigenous plant species like the Cameroon prunus africanus and Madagascar's Rosy periwinkle used traditionally for the treatment of prostate disorders and developed as modern medicine respectively, stand the risk of extinction if the current over-exploitation, extensive deforestation in the Sub region are not urgently checked. The lives of those directly depending on these species are equally endangered. Therefore, measures to improve on environmental situation will certainly enhance the reduction and alleviation of poverty in the Sub-Saharan Africa region through improved health and its impact on household incomes

Environmental degradation in any of its various forms of ozone layer depletion, loss of biodiversity, soil erosion and pollution brings untold challenges onto the people and it is the poorer class that is most hit since their ability to survive such challenges is limited. They are highly vulnerable to disaster and other events (World Bank, 2002). An even more challenging aspect of the vulnerability factor is the unfairness in the distribution of income; access to social amenities as well as to natural and productive assets like land, which Lambi (1997) qualifies as the disproportionate

land/resource distribution. Apart from the widening gap between the rich and the poor another obvious consequence is that, the poor are likely to occupy marshy and sometimes steep hillsides exposed to, and characterized with frequent disasters like floods and landslides etc. Their income yielding activities like farming are subjected to soil erosion and low soil fertility, which result from bush burning and short fallow periods farming methods.

Most of the people of Sub-Saharan Africa live in rural areas (World Bank, 1997:29). For instance; Zambia (88% in 19991); Sierra Leone (76 % in 1990); Cameroon (71% in 1984); Gambia (66% in 1992); Guinea Bissau (58% in 1991); Lesotho (57% in 1993) and Uganda (57% in 1990). For example in Cameroon, 87 percent of the rural population is classified as living in poverty (World Bank, 2002), and solely depending on incomes from the renewable natural resources like agricultural and forest activities. Therefore, attempts to degrade these resources are tantamount to exposing livelihood to delicacy, desertification and water shortages.

### ***Environment-Livelihood, Security and Poverty***

Population degrade the environment in many ways and the final consequence remains that of reducing the welfare of the present and future generations. For instance, this is manifested in the form of deforestation for farming, residential and other urbanisation activities, through physical or mechanical erosion and through its contribution to the emission of carbon dioxide and other greenhouse gases into the atmosphere.

#### ***Deforestation***

With current annual population growth rate of 2.5 percent, the pressure on the continent's natural resources is expected to rise. The immediate impact is degradation. Soil cover removal, soil erosion and deforestation will increase as the need to satisfy people's desire for fuel wood, residential lands, cropland as well as logging increase.

The rate at which Africa is losing its forest to shifting cultivation (3.6 percent yearly), is far greater than the world's 2 percent rate of deforestation. Tropical African forest resources alone declined by 7 percent annual. As observed from table 3, this constitutes about 98.6 percent total forest lost in all tropical countries of the world between 1980 and 1990. Out of 13.7 millions hectares of forest lost between 1990 and 2000, the greater share was accounted for by European companies through the extraction of wood logs for commercial purposes (UNFAO<sup>6</sup>, 2000). So the continuous increase in the rate of tropical deforestation (from 6.4% to 8.15% between 1960 and 1990) for all African countries as observed from the Table 4 is an indication that forest resources are facing great pressure. As a result, they face the danger of complete disappearance if urgent appropriate management and conservation measures are not implemented. The spill over effects will definitely increase poverty for the Sub region especially for future generations because of the reliance on forest resources for a living.

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<sup>6</sup> United Nations Food and agricultural organisation

A finding of a similar study by FAO shows that about 70 percent of Africa's forest loses in the 1980s was through degrading closed and fragmented forest. Thus, measures to check the rapid and continuous disappearance of our natural forest include a check on the rural population pressure mounted through subsistence farming, grazing and fuel wood extraction. Out of Africa's 6.3 percent of forest degradation and conversion of tropical closed forest during 1980-1990, deforestation and structural short fallow accounted for 1.9 percent each, while 0.2 and 0.1 percent for shifting cultivation and plantation farming respectively. World resource 1996-97 projections show that by 2010, cropland in developing countries that in 1988-90 stood at 200 million hectares would have expanded by some 20 percent, thus representing 2.4 percent of the 1000 million hectares of land with crop production potentials.

### *Urbanization*

An urban area can commonly be defined as a locality with 200,000 inhabitants or more (Clarke, 1981). From this definition, the problem of land use, waste disposal and greenhouse gas emission immediately comes to mind. Although the amount of land lost to urbanization may be considered small and even negligible compared to that lost to agriculture and grazing activities. Geographers and economic planners still express fears since it is estimated that at the current growth rates, about 5 billions of the expected 8 billions people by the year 2025 will be living in urban centres (World Resource, 1996-97).

Irrespective of whether the year 2025, world population will live in urban or rural villages, it is certain that they will have an increased quest for land, energy, water, and food. Unfortunately, the likely increase in consumption in terms of quantities and varieties will generally lead to a corresponding increase in the quantity of wastes and perpetuate an additional danger onto the environment as a whole (waste disposal). The consequences can be classed in three principal domains:

1. Land will witness a faster conversion rate for settlements, roads, and industry.
2. There is a likely increase in extraction and thus, depletion of both the renewable and non-renewable natural resources.
3. The disposal of these wastes will constitute an added problem to urban management, health and livelihood problems.

Thirty-four percent of Africa's total population are living in urban centers and 4.8 percent growth rate of urbanization (World Resource, 1996-97), it is estimated that by 2025 more than (54 percent) of its population is likely to be concentrated in large cities. In the same trend, a majority of SSA countries, mostly the small states, record a relatively high urbanization growth rate between 1990 and 1995 as shown in Table 5. The situation is likely to continue if not checked.

TABLE 5: RATE OF URBANIZATION FOR SELECTED SSA COUNTRIES RATES OF 1990-1995

	Country	Rate of urbanization (%)
1	Burkina Faso	11.2
2	Mozambique	7.1
3	Botswana	7.0
4	Kenya	6.8
5	Burundi	6.6
6	Angola	6.3
7	Gambia	6.2
8	Lesotho	6.2
9	Malawi	6.2
10	Swaziland	6.2
11	Tanzania	6.1
12	Equatorial Guinea	5.9
13	Namibia	5.9
14	Cote d'Ivoire	5.0

Source: United Nations population Division and UNDP-1996.

TABLE 6: GLOBAL CARBON DIOXIDE AND OTHER GAS EMISSION IN 1992

Regions	CARBON DIOXIDE		OTHER GASES	
	(000) tons	Metric Percentage	(000) Metric tons	Percentage
World	22 339 408	100.00	270 000	100.00
Africa	715 773	3.20	21 000	7.78
Europe	6 866 494	30.74	53 000	19.63
N/Central America	5 715 466	25.58	35 000	12.6
South America	605 029	2.71	21 000	7.78
Asia	7 118 317	31.86	140 000	51.85
Oceania	297 246	1.33	5 000	2.15
Sub-Sahara Africa	511 700	2.30	17 810	6.60

Source: Carbon Dioxide information Analysis Centre / World Resource (1996-97).

Problem of sewage treatment, which cost U.S. \$1500 per household for collection and primary treatment (World Resource, 1996-97). This will have a negative effect on the present state of poverty. Other revelations show that due to their high rates of urbanization and population growth, developing countries have experienced and will continue to receive greater land pressures.

### 2.3) Atmosphere and water pollution and poverty

Another very important aspect of the environment is the atmosphere/water pollution, one of which causes climatic changes. The principal cause is the rising concentration of greenhouse gases like carbon dioxide and methane (resulting from the growing human population and an expanding industrial activity). Whereas the impacts of deforestation, urbanization and erosion may be limited to the immediate or local surrounding and affecting mostly those living in that milieu, that of climatic changes affects the global environment through a rise in average regional temperatures/rainfall as well as sea level. This will have an effect soil moisture, surface and groundwater supplies, crop yields, droughts, floods, or storms; and increase poverty. The contaminated air and water has harmful effects on both flora and fauna as well.

Because of Africa's low industrialization level (9.7 percent), SSA in particular does not contribute much to global warming as far as industrial emission of carbon dioxide is concerned (World Resource, 1996-97). For instance in 1992, of the top 50 countries in industrial pollution, only South Africa and Nigeria were from the sub region (SSA).

As seen on Table 6, of the total 22 339 408 thousands metric tons of carbon dioxide emitted into the atmosphere from industrial processes in 1992, Africa's 3.2 percent contribution is higher only to that of South America (2.71) and the Oceanic regions (1.33). For obvious reasons, North America, Europe and Asia make enormous contributions to global warming and their effects are felt throughout the earth surface. The SSA on its part accounts for only 2.3 percent of the 3.2 percent rate for Africa.

Notwithstanding, current growth trends show that Africa and the rest of the developing world are potential contributors, and will account for 50 percent by the year 2010 (World Resource, 1996-97). This expected rapid increase is explained by the current shift of these economies from the use of traditional to commercial fuels, an increase in personal incomes (which will permit an increased use of gas-consuming apparatus) and the expansion of energy-intensive industries. The likely shift from agrarian based to processing and manufacturing dominated economies is another reason.

On the relationship that exists between climatic change and poverty, it is worth noting that increase in temperatures will encourage the proliferation of parasitic illnesses and viral infections. This confirms to the Intergovernmental Panel on Climatic Change's (IPCC) report that the number of those living in areas with high malaria transmission will increase from 45 to 60 percent of total world population between now and 2100. While it is obvious that all parts of the globe will be affected by climatic changes, not all parts will be affected with the same severity. Arid, semi-arid and low-lying coastal regions mostly inhabited by the poor are highly subjected to floods and those people are more vulnerable to such effects. Between 1989 and 2000, major floods, which might have been caused by global warming, occurred in the following SSA countries: Burkina Faso, Chad, Kenya, Madagascar, Mozambique, Nigeria, Sudan and Zimbabwe. The region is most vulnerable to natural disasters such as insect infestation and an estimated 330 droughts was recorded between 1965 and 1999. This led to some 880 deaths and made a significant impact on famine and poverty in Ethiopia, Madagascar, Mozambique, South Africa and Tanzania (World

Bank, 2000f). With climatic changes, the poor who generally contribute very little to greenhouse gas emission and hence to global warming, unfortunately suffer the most from its adverse effects of the proliferation of parasitic diseases and natural disasters.

Only 26.2 percent of the Cameroon's population (similar to other SSA countries) have access to portable water, while the rest 73.8 percent and about 74 percent of the rural people of Sub Sahara Africa depend on unsafe water (World Bank, 1996 and 2000) from streams contaminated through the inappropriate disposal of human wastes. This leads to poor health too. Beside industrial emission of greenhouse gases and human wastes, other very prominent sources include the dumping of toxic wastes as well as biomedical wastes disposal, which both act negatively on soil fertility in the Sub region and to render those directly depending on it poorer.

## **Conclusion and Recommendations**

Just as the saying goes "man is born good but society corrupts", we see that a natural environment with enormous resources for the improvement of human welfare is being misused due to egoistic tendencies and now faces lots of threats. The price to pay for this human egoism, mismanagement and misuse of the environment and natural resources is enormous. It promises to be even disastrous to future generations if appropriate safeguard measures are not immediately taken. Based on World Bank (2002) it is but imperative to make great adjustments in our attitudes towards the environment.

"Once primary tropical forest are destroyed, they can not be recreated, once global warming occurs, it can not be reversed and such problems of irreversibility confers a perpetual loss on future generations and exert an expanding negative effect on subsequent generations,"

Fortunately enough, the SSA region still has some heritage to preserve e.g. the dense tropical forest of the Congo Basin, which is the second largest in the world. The Sub region also produces only a small amount of industrial greenhouse gases for global warming. This guarantees some hope for the region, but on conditions that stringent and rational use and management policies will be formulated in respect to environmental management. In fact, sustainable and participatory management approach, which requires that the local stakeholders design their own approaches towards poverty alleviation and environmental degradation, be the watch policy. Such policies will also allow for institutional reforms, which in turn will guarantee access to credits, improve basic infrastructures and production methods such as bush burning and subsistence farming practices.

To obtain an acceptable solution towards protecting our natural environment and reduce its impacts on poverty in the SSA, the multiplicity of factors that perpetuate damage to the environment need to be carefully checked. The exploitation, consumption and use of these resources should be limited. In the case of the impacts of population, numbers and growth rates per se might not necessarily lead to atmospheric pollution, deforestation, erosion and other environmental degrading aspects. A fair distribution of the population within time and space, an

equitable distribution of the resources to the given population will take care of such environmental problems. This is in line with (Blaikie, 1985) that “Inequality and processes of impoverishment are some of the important causes of soil erosion and degradation; the poor are forced onto desperate survival strategies like marginalized lands”.

Poverty figures for the Sub region has reached alarming rates with very disturbing consequences especially on the rural population whereby about two-thirds of the total rural population is living below the poverty line, and surviving only on resources of the natural environment (UNFPA<sup>7</sup>, 2000). Between the 1980s and 2004, almost all SSA countries have been encouraged to implement structural adjustment programmes (SAP) which unfortunately, failed to yield the expected results. Most of these reforms had instead plunged their respective economies into serious problems of poverty and indebtedness. Because the majority of those affected (rural population) directly depend on land and other renewable resources for their livelihood, the failure of such structural policies could be blamed on the non-integration of consistent environmental degradation measures. Such measures will check population growth and respect the carrying capacity of land, which most countries have failed to respect. Such measure would also check market and institutional failures. Integrating environmental issues in economic growth and development policies should replace what is generally referred to as the ‘Growth-now, clean up later’ approach because only this will ensure sustained growth. It also explains why the 1990 World Development Report on Poverty in SSA suggests that national strategies for a sustained poverty reduction should include amongst others the promotion of sustained economic growth and the use of transfers and social safety nets to protect the poor and vulnerable groups of resource-poor areas.

The author believes that since SSA is highly dependent on both renewable and non-renewable natural resources for its survival (especially the rural population), a sustainable management of the latter may be the key factor to reduce poverty and ensure a better welfare for the present and future generations. Therefore, policies aimed at alleviating poverty in the SSA should give serious attention to environmental issues and related factors like population growth, markets and institutional failures. For the sake of future generations again, this researcher recommends that conservation policies complement efforts towards increasing the available forest through a reforestation program like is the case in present temperate developing countries where forest between 1981 and 1990 increased by 2.4 percent.

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<sup>7</sup> United Nations Population Fund.

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