

# Caleb M Fundanga: Economic and environmental growth of Africa

Speech by Dr Caleb M Fundanga, Governor of the Bank of Zambia, at the 2nd Green Accord Media Forum, Rapolano, Italy, 3 November 2004.

*The references for the speech can be found on the Bank of Zambia's website.*

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## 1. Introduction

The world community faces unprecedented ecological challenges in the twenty-first century. Many political and business leaders have embraced the idea of *sustainable development*, calling for economic growth without destroying the natural environment or depleting the natural resources on which future generations will depend. Yet the concept has remained controversial, and implementation has been difficult. The task for policy makers and corporate leaders will be to find ways to meet both economic and environmental goals in the coming decade, without sacrificing either (Post-Lawrence-Weber, 1999). In Africa, environmental issues are also frequently sidelined on most policy makers' agendas due to insurmountable economic and social problems that the continent continues to face. Notwithstanding the economic and social hardships, as Africa constantly strives towards attaining economic development, environmental sustainability remains a key area of concern (UNEP, 2003) although usually remote to most economic policy makers. In addition, environmental sustainability is hardly seen by many in Africa as an underlying factor in economic development yet it is so critical that, if adequately and promptly addressed, will have positive secondary effects on other crucial areas pertaining to economic development and people's welfare.

In this paper, I attempt to examine the interrelationships between environmental growth and sustainable economic growth from the African perspective. The paper is organised as follows; section 2 examines the current economic disposition of Africa, and attempts to determine its relationship with environmental developments. Prominence is given to the components that affect environmental sustainability, namely (i) pollution and (ii) degradation. The latter will prove to present a relatively high risk to environmental sustainability in Africa. Section 3 presents a further analysis on the effects of the environment on economic growth, and that of economic growth on the environment. Section 4 tackles issues of Africa in the world economy and its environmental prospects. Section 5 provides current solutions aimed at mitigating and/ or reducing the various negative externalities related to environmental pollution and degradation such as national, regional, and international environmental management policies. Recommendations that are considered necessary to foster environmental friendly economic development are also given as input for further improvements in environmental management in Africa.

## 2. Economic disposition of Africa

With an estimated total population of 835,479 thousand people representing 13% of the world's estimated 6,395, 557 thousand people,<sup>1</sup> and spanning the 53 countries of Africa, the continent faces numerous challenges predominantly on the economic, social, and political fronts. Despite these difficulties, Africa recorded a growth rate of 3.6% in 2003, an increase from 2.7% recorded in 2002. The increasing trend in economic growth is expected to continue into 2004 [African Development Bank (AfDB), 2003]. Yet the challenge remains to meet the targets set by the Millennium Development Goals (MDGs) aimed at reducing the number of the world's poor by half by the year 2015. Unfortunately, improvements in some economic indicators may not be sufficient enough to enable the majority of African countries to meet the MDGs targets.<sup>2</sup> Specifically, single digit economic growth rates are not sufficient for tackling the widespread poverty in the continent. According to the African Development Bank, only Algeria, Egypt, Libya, Morocco, Tunisia, and Mauritius will attain the specified targets. The majority of the population of Africa is located in rural areas where agriculture and dependence on natural resources remains the predominant means of livelihood [United Nations

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<sup>1</sup> As of 10/22/2004, Source: Encyclopedia Britannica Book of the Year 2004.

<sup>2</sup> United Nations Environment Program (UNEP) Fact Sheet, Global Environment Outlook – 3, Africa, GEO 3, Nairobi, Kenya, 2003.

Development Programme (UNDP), 2003]. Soil, grasslands, freshwater sources, and oceans play a critical role to sustain crop cultivation, grazing land for livestock, and fisheries.

The energy sector equally plays an important role in the African economy due to the dependence of all national economies on oil for their production activities. On one hand, significant dependence on oil exports from countries such as Angola, Chad, Equatorial Guinea, Nigeria and Libya is becoming increasingly pronounced.

Consequently, rising oil prices have contributed towards augmenting revenues of these oil-producing nations, while on the other hand threatening the revenues of the other nations that only use but do not produce oil. In spite of the energy obtained largely from hydro and some geothermal and solar sources in Africa, the population continues to lag behind the rest of the developing world in terms of access to electricity. Approximately 77.5% of the sub-Saharan population has no access to electricity, with the majority of the population relying on biomass (dung and firewood) for domestic energy needs (OECD/ADB, 2003).

To a large extent, economic growth in Africa is still largely driven by production of raw materials that are hardly subjected to meaningful industrial processing. This source of economic growth has a direct dependence on the use of natural resources mainly in agriculture and mining. The lack of value-adding processing largely underpins the historical low levels of economic growth.

### 3. Effects of environmental growth on African economic growth

#### 3.1 Environmental issues in African economic growth

Environmental issues ought to be an important area of concern for leaders and policy makers, when making policy decisions about human development and economic welfare, especially those in the developing world. Many growth sectors are in effect directly or indirectly related to the environment. A study by Jha and Whalley (1999) argues that the main environmental issue generally affecting the developing world is **degradation**, as opposed to the common belief that pollution is the principal factor of environmental decay which is predominantly applicable to industrialised countries. Degradation comprises of the following key areas; soil erosion, declining soil quality due to pesticide residue, exploitation of open access resources due to ill-defined property rights, and congestion and traffic. Other perverse forms of degradation are deforestation and desertification.

While Africa continues to suffer economic stagnation, the factors that result in environmental degradation are continually on the increase. Some of the factors, such as burning of fossil fuels which release carbon dioxide, are possible causes of *global warming*, although to a lesser extent when compared to emissions of greenhouse gases by industrial activities. Specifically, the predominant ways that these factors affect the ecosystem are as follows;

**Soil erosion** involves the washing away of tracts of land due mainly to human activities. Such activities, while providing a source of livelihood for many, do not have safeguards to preserve the land for long-term use. Typical activities include clearing of land for crop growing and animal grazing. Related to soil erosion is the declining soil quality due to pesticide residue. This in turn leads to more clearing of virgin land once fertility reduces on existing land.

**Exploitation** of open access resources due to ill-defined property rights presents environmental management in Africa with tremendous challenges. Most of the natural resources in Africa tend to be viewed as a common good for the entire population. As a consequence there is open access to especially land under what is commonly referred to as traditional system of land tenure. It is because of this that rampant clearing of tracts of land go unrestricted hence resulting in degradation.

In urban areas, ill defined land ownership is responsible for mushrooming of shanty compounds, illegal dumping of waste, etc.

**Congestion** and traffic is related to the population growth rates and urbanisation. In most of Africa, modern economic activities are concentrated in urban centres. These tend to be the export enclaves that support African economies. With an obvious economic tendency for the population to gravitate towards points where they can maximise economic welfare, the urban areas have found themselves faced with congestion, which in turn overstretches utility service facilities resulting in poor sanitation and rampant epidemics such as respiratory diseases, cholera, etc. In addition, the general increase of

the population implies not only increased pressure on natural resources but also more carbon dioxide released through the human respiratory process.

**Deforestation** is currently a serious concern for Africa, with forests being lost at an annual rate of more than 5 million hectares (United Nations Environmental Programme [UNEP], 2003). The growing demography of Africa has resulted in the clearing of land in order to accommodate for more houses and areas for cultivation due to the significant dependence of the majority of the population on agriculture. According to UNEP 2003, 60% of the tropical forest areas that were cleared in Africa as a whole between 1990 and 2000 were converted to permanent agricultural smallholdings. The cutting and not replacing of trees contributes to global warming. Worse still is the burning of forests to clear land for grazing or agriculture which also releases carbon dioxide.

**Desertification** is another area of concern for the continent. Over 45% of Africa is affected by desertification, while 55% is at high-to-very-high risk of erosion (UNEP 2003). Desertification is compounded by the other major environmental concern of deforestation. In fact, studies have shown that mortality rate, maternal health, and girl child education in the region are directly linked to environmental changes such as deforestation. In rural areas, households rely on females to fetch firewood, therefore, continued deforestation implies longer walking distances for women and girls. These result in complications in pregnancy, other ailments, as well as less time for girls to do school work. Studies have also shown that women and girls in Africa spend an average of three hours a day fetching water, hence expending more than a third of their daily intake of food (UNDP 2003).

Although only 26% of the oil produced in Africa was used locally in 2003, energy consumption increased by 44% in Northern African countries (ADB and UNEP, 2003). However energy consumption of liquid fuels comes at a cost. The carbon dioxide (CO<sub>2</sub>) pollution as a result of energy consumption in Africa was approximately 3.5% of the global emission of CO<sub>2</sub>, (UNEP, 2003).

Growth in demand in the fishing sector has ultimately resulted in the threat of the sustainability of particular coastal and marine populations. To-date the per capita fish catch worldwide has remained static since 1972, however, this measure for Southern Africa has declined significantly (UNEP 2003).

Globalisation has resulted in the specialisation of economies in areas in which they have a comparative advantage. The prevalence of cheaper labour costs has led African countries to primarily move towards the role of producing goods in labour intensive sectors such as agriculture and mining. The demand for cash crop exports from African countries by the developed world has equally soared. However the use of pesticides in cash crop production in order to maintain certain international standards has the potential to reduce soil quality due to toxic residue build up. Future population growth, expansion in the agricultural sector, and general economic expansion in Africa will see heightened competition for water resources among these sectors. Competition for water resources between households, industry, and agriculture is expected to increase in future, as currently 25% of the population is living in areas already facing severe water stress (UNEP, 2003).

Although Africa's exports at the global level are very small at about 2%, the concentration of the exports in the extraction sector is cause for concern on the environment. It means that the more Africa is integrated into the global economy the more the consequences for extraction activities on the environment will become pronounced, unless mitigating measures are taken. In addition, multinational businesses are quickly realising the existence of less strenuous environmental standards in most of the African countries, which themselves are desperately seeking for Foreign Direct Investment (FDI). As a result, these businesses are rushing to invest in these economies and realise profits but may never be available to attend to the possible redress of negative effects their business activities leave on the environment.

In this respect, as African policy makers and other stakeholders pursue economic growth, it is important to appreciate the benefits presented by the natural ecosystems and diverse forms of wildlife and other species. Despite the economic benefits of constructing roads, mining areas, and farming blocks, there exists a real threat of the destruction of large areas of natural habitats.

The emergence of industries and the effect of urbanisation in Africa, has largely contributed towards increased air pollution in many towns and cities. The incidence of smog and respiratory diseases in these areas has increased (UNEP, 2003), and is set to continue this trend in the foreseeable future.

Africa does not contribute significantly to the emission of pollutants arising mainly from combustion in complex chemical processes of industries. This is so because of the low industrialisation characteristic of the continent, whose economy is still trapped in the shackles of economic stagnation. Sadly the

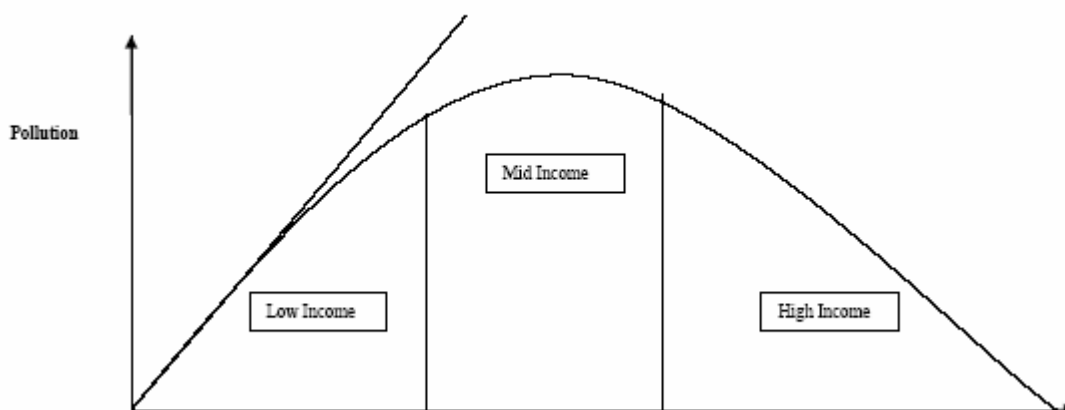
rate, at which industrialised nations are emitting especially greenhouse gases, implies that Africa will also soon begin to experience effects of *global warming*. The effects of global warming, which include floods, hurricanes and general weather changes that can also affect agriculture production, with prospects to damage material wealth and property will negate the little gains that African economies have attained thus far. To complicate the situation further, majority of African economies do not have buffer resources to enable them rebuild infrastructure that may be damaged from the effects of global warming. Consequently, in respect to effects of global warming, the tendency in most of Africa will be increased poverty, exacerbation in poor sanitation and outbreaks of epidemic.

Ignoring environmental sustainability, even if doing so leads to short-run economic gains, can hurt poor people and undermine long-run poverty reduction (UNDP, 2003). The two areas, economic growth and the environment are interrelated. Therefore developments in one coexist with developments in the other.

The exclusion of accounting for the value of nature in economic indicators such as the Gross National Product (GNP) and the Human Development Index (HDI), gives a subordinate role of nature in promoting growth; in addition to this, property rights to natural capital are frequently difficult to establish (Dasgupta, 2002). Dasgupta's analysis of World Bank estimates of genuine investment in countries, discovered that the accounts used were incomplete, as they did not include measures such as water resources, air and water pollution, and biodiversity among other measures. In addition, Dasgupta pointed out that shadow pricing strategies aimed at measuring the social worth of goods and services in an economy were questionable. Despite these setbacks, the author was appreciative of the pricing model. Dasgupta further stated that GNP and the Human Development Index as measures of economic growth at times provide contradicting evidence. Evidence supporting the findings of Dasgupta is shown by the change in the Sub-Saharan net savings rate from positive to negative in most years between 1976 and 2000, when the costs of environmental degradation and natural resource depletion were taken into account (UNDP 2003). Another measure of environmental deterioration in this case pollution, is the UNDP's Global Environment Monitoring System (GEMS), however this system does not take degradation into account (Jha and Whalley, 1999).

The relationship between economic growth and its impact on the environment is ably demonstrated by the *Kuznets Curve*. The *Kuznets Curve* states that there is an inverted U-shaped relationship between economic growth and the environment. Negative environmental externalities increase steadily proportionately to economic growth up to a turning point during the initial stages of economic development (see Chart below). Once the turning point is reached, the economy then begins to place more emphasis on the importance of the environment, by devoting resources to negate further negative effects on the environment. As a consequence, environmental pollution and degradation begin to decline since the country has the capacity to invest in environmental friendly technology. Similar results were found by Grossman and Kruger (1995).

**Chart: The Kuznets Curve**



**Source:** Robert T. Deacon and Catherine S. Norman\*, *Does the Environmental Kuznets Curve Describe How Individual Countries Behave?* University of California, Santa Barbara April 5, 2004

However critics of the model [Common, 1995, Shafik 1994, Selden and Song, 1994, and Lopez, 1994], argue that there may be irreversible environmental damage before the top of the curve is reached, the model does not hold for all environmental indicators. Elasticity of substitution between factors of production, pollution and consumer utility must be taken into account.

Empirical evidence from South Korea (Lim, 1997) shows that the relationship between economic growth and environment cannot simply be explained by a trade-off or inverted U-shape relationship. The result can be attributed to the worsening (increase) in indicators such as CO<sub>2</sub> and industrial waste as per capita income increases in contrast to other indicators such as water quality and domestic waste which experience a U-shaped relationship. Other factors such as pollution due to transportation were found to possibly be lower when people live closer together (Selden and Song, 1994).

Globalisation has resulted in the spill over of technology and knowledge from developed countries to several middle-income and many industrialising economies via Foreign Direct Investment (FDI) and Research and Development (R&D) efforts, thereby leaving developing countries lagging behind (Panayotou, 2000). Panayotou further notes the failure to provide evidence that the occurrence of lax environmental standards in emerging economies leads to FDI, on account of the fact that investment decisions by manufacturing plants and other multinationals to invest in countries is based on factors such as political stability, favourable economic policy, labour quality, and infrastructural developments.

It is therefore clear that economic development is not without costs. In fact, the much desired economic growth if not carefully balanced with the need to protect the environment may result in permanent adverse effects on the environment for a country and the world.

Specific to Africa, the application of these models and research findings lends itself to further caution. With the continental economy still facing numerous problems to the extent that most national economies are yet to provide sufficiently for their nationals, it is unlikely that a point would soon be reached in Africa's economic growth, at which adequate resources become available for commitment to environmental concerns. In other words, thought needs to be given to the social background against which utilisation of resources from economic growth will depend. The various human and social challenges such as poverty and epidemics confronting the continent may well explain the relatively low emphasis by policy makers on environmental concerns when compared to their western counterparts. That said, however, it must be recognised that in respect to the ecosystem, the globe is one and benefits that accrue to one corner due to environmental preservation, accrue to the entire globe. In this regard, measures need to be developed to quickly put Africa's high potential economic growth on a path that is environmentally sustainable. Deliberate actions need to be taken in successfully transferring environmentally friendly technologies to Africa. A case in point is the use of solar technology, for which achievements thus far are promising. Most of Africa is endowed with solar energy, and transforming it into usable energy would substitute the widespread use of wood fire energy by the majority of the continent's population. In addition, because this is proven technology no more resources need to be devoted to Research and Development. Further, solar energy circumvents the costs related to the generation and distribution of yet another clean source of energy, hydro-energy. In addition to generation, distribution of hydroelectricity presents Africa with a unique challenge of supply network or grids due to the vast landscapes that constitute the rural setting where majority of the population resides. This is part of the wider infrastructural constraint that the continent is yet to overcome.

#### **4. Africa and the world economy**

In the real sector, a number of African exports experienced an overall increase in prices in 2003. International gold prices increased, much to the benefit of the continent's top producers, South Africa and Ghana. Likewise, oil prices increased during the same period leading to higher revenues for countries such as Nigeria, Equatorial Guinea, and Chad (ADB, 2003). The developments in the Middle East, Iraq in particular have resulted in soaring oil prices reaching highs of about US\$50 per barrel, due to the insecurity and uncertainty pertaining to the global oil supply. Both gold and oil prices are expected to maintain high prices throughout 2004. Increased foreign assets obtained from export earnings from the real sector will in effect improve the capability of oil exporting African countries to release more funds towards the achievement of their environmental goals.

In line with the expectations of the Heavily Indebted Poor Country (HIPC) initiative, many heavily indebted African states have cut their fiscal expenditure and are focussing on staying within their set targets. Attainment of the HIPC initiative completion point, will lead to the much needed debt

cancellation by Paris Club members resulting in an overall improved financial position of these economies. Failure to reach the target will however prolong reduced fiscal expenditure. Despite the long-term economic benefits of the HIPC initiative in achieving the MDGs, short and medium-term growth strategies of development concerning the environment and other areas will be constricted.

#### **4.1 Prospects of economic growth**

The prospects for economic growth in Africa remain bright. The African Union (AU) is currently making efforts towards ensuring political stability in the continent aimed at promoting both foreign and domestic investor confidence. International support of the New Partnership for Africa's Development (NEPAD) had led to some increase in aid in 2002; the trend was expected to continue in 2003 (OECD, ADB). The future outlook in the performance of the real sector is set to improve due to:

- low production costs (labour, electricity, and water, among other inputs);
- comparative advantage in areas such as specialised agricultural production;
- Numerous investment opportunities are available in the mining sector, which remains largely untapped, despite the richness and variety of minerals in Africa. The scope for improvement of environmental sustainability in Africa, hence economic growth is extremely vast;
- Expansion of markets through regional integration within Africa with necessary networks will facilitate for increased capacity utilisation among existing and potential productive businesses; and
- Additional areas of improvement include the expansion of hydroelectric power facilities along the major rivers such as the Nile, Congo and Zambezi to provide a viable source of clean energy to the majority of the population, which presently primarily relies on biomass fuel.<sup>3</sup>

For the African continent to embrace the potential benefits of globalisation, it is vital for African countries to implement supportive fiscal and monetary frameworks that promote investment. Prudent policies in these areas provide an important contribution to macroeconomic stability, a key prerequisite for economic growth. In addition, African countries must now commence the process of adding value to their export products as they compete and interact with a global market.

### **5. Environmental protection**

Due to the high dependence of rural communities on common property, it is necessary for local governments to implement environmental policies in order to protect the rights of the poor, who are the most affected when the quality of the environment worsens. Data from villages in Zimbabwe estimate the proportion of household income from common property as high as 40% (Dasgupta, 2002).

A number of environmental protection campaigns are currently being executed in several African countries. One such campaign is the National Soil Fertility Action Plan, which is currently being prepared in 23 countries. In addition to this development, 15 National Action Plans have been submitted within the United Nations Convention to Combat Desertification (UNCCD). Natural resources need to be maintained in order to provide a livelihood to largely communal rural communities, which for the most part depend on forests, and other open natural resources for their survival. It has been shown that in Tanzania the poor derive as much as half of their cash incomes from the sale of forest products, such as charcoal, honey, firewood and wild fruits (UNDP 2003). This is true for most Sub-Saharan African countries. In addition, most methods used to purify minerals such as gold by most small-scale rural people involve pollution of rivers with toxic chemicals.

Regional institutions in Africa have worked towards the implementation of development programmes aimed at reducing pressure on natural resources in the various areas of the continent. General concerns for all regions in Africa primarily encompass the problems of deforestation, scarcity of water resources, access to clean water sources, and access to non-pollutant energy sources such as electricity. Primary concerns of the northern and some parts of the eastern, western, and southern

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<sup>3</sup> The World Summit on Sustainable Development (Rio +10), African Preparatory Conference for the World Summit on Sustainable Development Nairobi, 15-18 October 2001.

sub-regions however include the effects of desertification on human development and economic growth.

Regional government policies in Tanzania, have led to implementation of environmental management policies aimed at promoting waste management, urban planning, and impact assessments for large projects. Government authorities have created designated protected areas aimed at conserving forests as well as supporting community-based income. This initiative is also being implemented in Zambia. Africa now has a total of 1,254 protected areas, or 7% of the landmass.

The Southern African Development Community (SADC) plays an important role in the implementation of programmes aimed at improving the environmental sustainability of the region. Acknowledging the importance of water in development, the SADC Water Sector Coordination Unit was established in 1996. Prior to the formation of this Unit a Protocol on Shared Water Course Systems was ratified by the majority of the SADC Member States. This Protocol aims to promote the availability of fresh water resources in the region. In addition, a Forest Policy and Development Strategy, was implemented in 1997 by the SADC forest sector to address the issue of forest protection in the region.

In order to protect marine life, agreements such as the Oil Spill Contingency Plan have been developed. The sustainability of fisheries resources is also now monitored by control agreements, and a Sustainable Fisheries Livelihoods Programme has been developed in West Africa.

Other regional Protocols adhered to by some African states include cooperative efforts to implement programmes that aim to combat desertification by the Arab Magreb Union (AMU), the Common Market for Eastern and Southern Africa (COMESA), Economic Community of Central African States (ECCAS), Economic Community of West African States (ECOWAS), Intergovernmental Authority on Development (IGAD), Inter-State Committee to Combat Drought in the Sahel (CILSS), and Southern African Development Community (SADC).

International Agreements such as the Vienna Protocol, which called for the formation of a co-operative framework and policy structure aimed at protecting human health and the environment from adverse effects of human activity which modify, or are likely to modify the ozone layer<sup>4</sup> are also observed. The Vienna Protocol was, effectively signed by 46 African countries. The Montreal Protocol which was signed by 47 African countries called for the implementation of cost effective alternatives to ozone-depleting substances, and the Kyoto Protocol which was signed by 4 African countries<sup>5</sup> out of a total of 84 countries globally, aims to curb greenhouse gas emissions that result in global warming. Despite the ratification of these protocols by some African countries, it is worth noting that rich countries with 16% of the world population emit 51% of the worlds green house gasses (UNDP, 2003). The Kyoto Protocol is yet to be implemented due to non-ratification by some key developed countries, who happen to be the emitters of substantial amounts of the worlds greenhouse gases (Russia ratified the Protocol in September 2004).

A United Nations Forest Forum (UNFF) was established in 2000 to promote the management, conservation, and sustainable development of forests. The institution effectively serves to monitor national, regional, and global developments of forests. United Nations Organisations such as United Nations Environmental Program (UNEP), United Nations Development Programme (UNDP), United Nations Convention to Combat Desertification (UNCCD), and the World Bank have done a commendable job in implementing multiple projects that aim to promote environmental sustainability in Africa. These organisations provide both financial and technical support to programmes designed to promote environmental sustainability in Africa. African governments have pledged to support such programmes.

## **6. Recommendations**

From the foregoing, it is clear that environmental protection goals should be realised in order to achieve sustainable economic growth. Effective environmental protection policies relating primarily to the effects of degradation and depletion of the environment need to be implemented and maintained by institutions and individuals at all levels of society namely, local governments and national, regional,

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<sup>4</sup> Environment Canada, International Relations, International Agreements, 1998 [http://www.ec.gc.ca/international/multilat/ozone\\_e.htm](http://www.ec.gc.ca/international/multilat/ozone_e.htm)

<sup>5</sup> Kyoto Protocol, Status of Ratification, Last Modified 29th July 2004, <http://unfccc.int/resource/kpstats.pdf>

as well as international institutional bodies. This is even more critical for Africa which is also faced with unique constraints such as rapid urbanisation, poverty, poor legislation and inadequate capacity to implement and enforce legislative controls where they exist.

The trend of population growth in developing countries, estimates that 95% of the total world population growth will occur in Africa, Latin America, and Asia over the next 30 years (Post-Lawrence-Weber, 1999). The resulting increasing strain on natural resources due to the imminent population boom in Africa if not checked, will cause many setbacks to economic growth and human development. It is therefore advisable that stricter environmental policies be implemented in these countries so as to offset encounters with such negative developments.

The anticipated future demographic pressure on urban areas due to a shift of the expanding population to the cities and towns in search of jobs will ultimately result in increased levels of air pollution, and pressure on transportation facilities, urban sanitation, access to clean water supply, and waste disposal. The total population of Africa is projected to reach 1,941 million by the year 2050, from approximately 885 million in 2004 (Ashford, 2004). According to statistics collected by UN-Habitat 2002 and UN 2002, they indicate that out of a world total of 923,986 thousand urban slum dwellers, 869,918 thousand (94.1%) were from developing countries, with Africa accounting for 187,563 thousand or 20% (UNDP, 2003). It is important for local governments to ensure adequate planning policies in order to accommodate the predicted rising population. Local governments must also ensure the implementation of effective policies meant to regulate the activities arising from globalisation on the African economy such as the expansion in the number of urban industries, and the need for land for cultivating commercial crops, as well as to support the need for increased areas of subsistence farming.

Another fundamental aspect that needs urgent attention is the issue of collecting more accurate data on environmental pollution and degradation and related statistics on the environment. Items such as farming methods employed, the pace of clearing of land for settlements, and charcoal burning, are presently not included in existing statistics. Appropriate measurements will provide a more precise indicator of the weight and quantitative value of negative environmental externalities on economic development in Africa. Chinese policy makers have now adopted the use of "green GDP" (The Economist, August 21<sup>st</sup> 2004), which takes into account the environmental costs on economic development. A well-defined weighting system of the role of the environment on economic growth will ultimately result in more attention being conferred to environmental sustainability and development of appropriate policies necessary for effective environmental management to support sustainable economic growth.

## **7. Conclusion**

While pollution largely affects developed countries, environmental degradation is a more pertinent feature for developing nations. Studies have shown that environmental sustainability is linked to factors of economic development. Therefore advancements in one cannot occur without advancements in the other. Environmental degradation in Africa is exacerbated by poverty due to the reliance of the majority of the poor on natural resources. In the world today, about 900 million people live in absolute poverty in rural areas and depend on the consumption of natural products for their livelihood (UNDP, 2003). Unfortunately, most of the activities and methods used in deriving economic value from natural resources are not environmentally sustainable. Moreover, the resultant economic benefits, in most instances, only accrue to current consumption and not sustainable development from which resources for addressing negative consequences on the environment could be drawn. In Africa, most activities include unplanned quarrying, spontaneous trench digging for small-scale mining, shifting cultivation, indiscriminate cutting of trees for energy, inappropriate small-scale mineral processing using water and poor waste management, including indiscriminate killing of wild animals (poaching) in game parks.

The way forward in addressing these issues relates to the implementation of supportive government policies regarding environmental management and environmental sustainability. Regional and international policies on environmental management, governance, and conservation have an important role to play in this area, as environmental decisions of one economy may adversely affect other economies. The achievement of environmental goals will facilitate the achievement of other MDGs. Equally important are transfers of technology that is friendly to the environment as globalisation takes root.