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## COUNTRY REPORT

### An Analysis of Nigeria's Environmental Vision 2010

DICKSON 'DARE AJAYI & CHRIS O. IKPORUKPO

*Department of Geography, University of Ibadan, Ibadan, Nigeria*

**ABSTRACT** *The Vision 2010 Committee was inaugurated in 1996, with a mandate to develop a blueprint of measures to ensure the realization of Nigeria's potential as an independent country by the year 2010. The Committee submitted its report in 1997. This paper analyses the basic policy objectives—to seek a safe and healthy environment that secures the economic and social well-being of present and future generations—and the strategies used for their achievement. Despite this policy thrust, an in-depth assessment based on facts and figures shows that environmental protection/conservation is very low on the nation's agenda. Indeed, the depletion of the forest has continued unabated, such that there is a high rate of deforestation and forest resource loss without a corresponding afforestation programme. The problem of erosion has received little or no attention, given inadequate funding and poor management practices. Very little effort is being made to combat the twin problems of desertification and drought. Pollution from mining and industrial activities is on the increase. Pollution from petroleum (oil spills), particularly from sabotage and blockage, is also on the increase. However, the incidence of gas flaring may be eliminated by the year 2005, given the current trend. Apart from these, Nigeria has developed only about 40 per cent of its water resources. Municipal solid waste is a common feature in most urban centres without corresponding management practices, while environmental planning, and especially Environmental Impact Assessments (EIAs), have received little or no attention. Thus, most of the policy objectives are unlikely to be achieved within the stipulated time given the current trends and the general lack of public enlightenment/awareness on the issues of environmental problems and the mitigating measures. A more pragmatic approach is necessary if the policy objective is to be achieved.*

**KEY WORDS:** Environmental degradation, environmental planning, environmental policy, Nigeria, Vision 2010

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*Correspondence Address:* Dickson 'Dare Ajayi, Department of Geography, University of Ibadan, Ibadan, Nigeria. Fax: 234 02 810 3043; Tel.: 234 8056 137219; Email: ajayidd@yahoo.com

### Introduction

That the environment is threatened is no longer in doubt. The attendant problems have been the focus of major research efforts over the years (see, for instance, Bell & Walker, 1992; Gregory & Walling, 1979; Manners & Mikesell, 1974; Mannion, 1997; Meyer, 1996; Middleton, 1999; Tivy & O'Hare, 1981). Given the fact that these problems are a threat to the very existence of humankind, various concerns at both global and national levels have been expressed since the second half of the last century. There have been a series of conferences and reports, notably Stockholm (1972); the Brundtland Commission Report (1987); The World Commission on Environment and Development, Tokyo, Japan (1984); the UN Conference on Environment and Development, Rio de Janeiro, Brazil (1992) (see Grubb *et al.*, 1993; Kamieniecki, 1993; Tickell, 1993); and the Earth Summit, 2002 in Johannesburg, which have fashioned policies to save the environment. Following from these developments, the developing countries, which hitherto paid little or no attention to environmental issues, have drawn up policies to protect the environment.

In Nigeria, the Federal Environmental Protection Agency (FEPA), was established in 1988 to oversee environmental protection and management. Also, the National Policy on Environment was launched in 1989 in recognition of the linkage between the environment and national development. The environmental policy, which subsequently emerged has been analysed extensively (see Agbola, & Agbola, 1997; Agbola & Alabi, 2003; Areola, 2001; Chokor, 1993; Egunjobi, 1993). Prior to this, there was no general environmental policy. Policies that existed were sector specific and scattered in several government documents. Grove (1951, 1952), Adeyoju & Enabor (1973), Adeyoju (1975, 2001), Enabor (1977), Akintola & Areola (1980), Ola (1984) Ikporukpo (1983, 1986), Chokor (1993), Egunjobi (1993), Agbola & Agbola (1997), Areola, (1998, 2001), Agbola and Alabi (2003) have provided analyses of these scattered policies. More recently, in 1997, a new environmental policy emerged as a product of the Vision 2010 Committee. The Vision 2010 Committee, inaugurated on 27 November 1996, had a 14-item Terms of Reference (TOR) which required that the Committee, among other things, defined for Nigeria its correct bearing and sense of political, socio-cultural and economic direction. It was to develop a blueprint on measures and action plans which, when implemented, could ensure the realization of Nigeria's potential by the time that the nation is fifty years old as an independent country in the year 2010. The committee proposed both short-term, medium-term and long-term measures to stimulate economic growth and transform Nigerians into patriotic citizens, with a view to making Nigeria a developed country by the year 2010.

A major aspect of the report concerns the environment. It is the provision of this aspect that is analysed in this paper. As a precursor, an overview of Nigeria's deteriorating environment is presented by analysing the environmental status and assessing the earlier regulatory frameworks. An overview of the environmental Vision 2010 is then undertaken. The policy objectives and the instruments/strategies for the achievement of the policy objectives are analysed in the subsequent section. A significant part of the analysis is an examination of the attainability of the policy objectives. A summary and conclusion is presented in the final section.



### Nigeria's Deteriorating Environment: an Overview

This section presents Nigeria's deteriorating environment. A basic analysis is made of the status of Nigeria's environment and the regulatory frameworks are also examined.

#### *Environmental Status*

"The Nigerian environment today presents a grim litany of woes across the length and breadth of the country" (Federal Republic of Nigeria, 1997, p. 94). This quote captures the various aspects of Nigeria's environment as presented here. Nigeria's environmental problems include erosion and flooding, drought and desertification and associated climatic change/ozone layer depletion; pollution (oil pollution, urban decay, industrial and municipal solid wastes) and depletion of wildlife.

Perhaps the most devastating environmental problem in Nigeria today is the incidence of erosion and flooding. Sheet erosion occurs nationwide, producing a devastating effect on agriculture. Gully erosion is particularly severe in the states of Abia, Imo, Anambra, Enugu, Ondo, Edo, Ebonyi, Kogi, Adamawa, Delta, Jigawa and Gombe. The states of Anambra and Enugu alone have over 500 active gully complexes, with some extending over 100 m long, 20 m wide and 15 m deep. Apart from sheet and gully erosion, coastal and marine erosion and land subsidence occur particularly in the coastal areas of the states of Ogun, Ondo, Delta, Rivers, Bayelsa, Akwa Ibom and Cross River. The most celebrated case of the effects of coastal erosion is the overflow of the Bar Beach in Lagos by the surging waves of the Atlantic Ocean—now a regular feature since 1990—threatening the prime property areas of the Ahmadu Bello Way, Victoria Island. Nigeria also has had to contend with global environmental issues, such as climatic change and ozone layer depletion. Climatic change or global warming is due to increasing concentrations of atmospheric warming gases or greenhouse gases (GHG), especially carbon dioxide (CO<sub>2</sub>), whose concentrations have increased from 280 parts per million (ppm) in the 1800s to about 370 ppm now.

Desertification is a very serious ecological and environmental problem, affecting about 15 states in the northernmost part of the country. Currently, the areas north of latitude 15° N are either desertified or highly prone to desertification. It has been estimated that between 50 per cent and 75 per cent of Bauchi, Borno, Jigawa, Kano, Katsina, Kebbi, Sokoto, Yobe and Zamfara states are affected by desertification (see Figure 1). These states, with a population of about 27 million people, account for about 38 per cent of the country's total land area. Indeed, Olofin (2000) has shown that "drought incidence is on the increase everywhere in the country, aridity is intensifying in areas north of latitude 11° N, former fixed dunes are being mobilized, and agricultural lands are becoming less productive as desertification spreads its wings ...". It has also been estimated that the rate of expansion of sand dunes is about 200 km<sup>2</sup> per year (see Babalola, 2001). Desertification in Nigeria is largely traceable to factors which include natural causes of poor physical soil condition, vegetation, topography, as well as inherent extreme climatic variability as evident in periodic drought, especially in the dry northern Nigeria lands. Other human-induced activities include wood extraction for fuel and construction, bush burning, grazing, cultivation of marginal land, faulty irrigation management practices and the most subtle, but often neglected cause, poverty. The persistence of the problem continues to



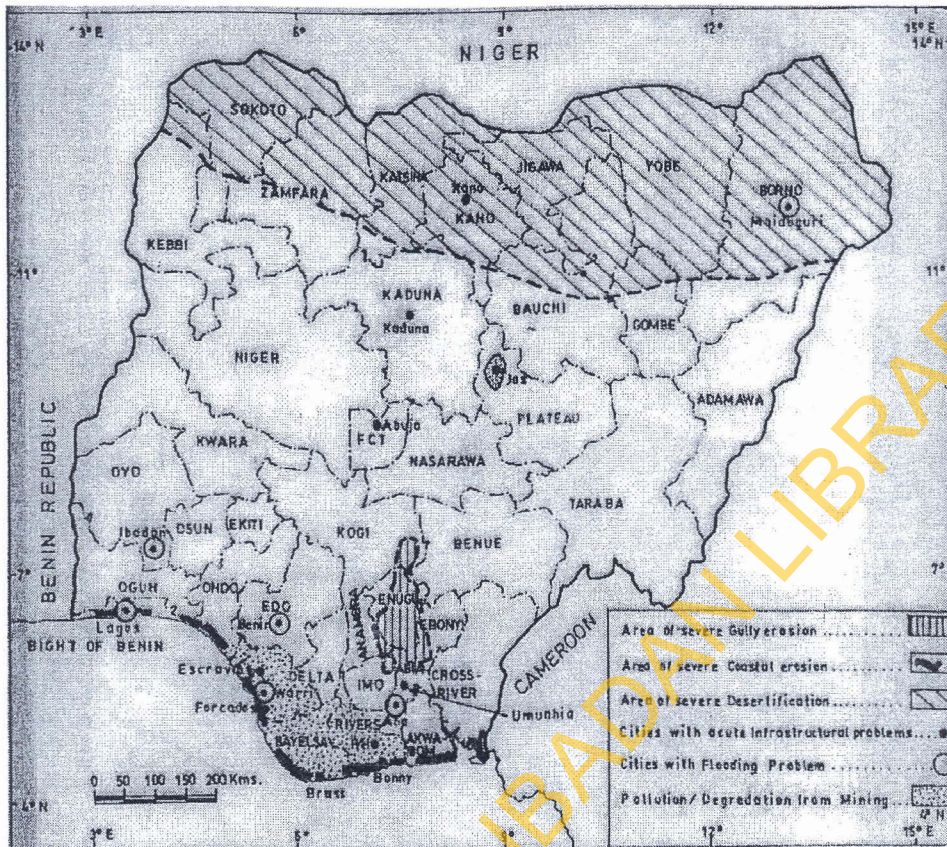


Figure 1. Major areas of environmental stress in Nigeria. Source: update of Ikporukpo (1983, p. 305)

cripple socio-economic development in the affected areas (Federal Ministry of Environment of Nigeria, 2001).

Pollution from spills, oil well blowouts, oil ballast discharges and improper disposal of drilling mud from petroleum prospecting have resulted in problems, such as (i) the loss of the aesthetic value of natural beaches due to unsightly oil slicks; (ii) damage to marine wildlife, modification of the ecosystem through species elimination and the delay in biota (fauna and flora) succession; and (iii) decrease in fishery resources. For example, it is widely acclaimed that pollution from petroleum exploration, production, refining and distribution may be attributed largely to communal strife which is a common occurrence in Nigeria. About 80 per cent of the gas produced is flared due to the absence of effective gas utilization programmes (see Federal Republic of Nigeria, 2000b for details). In addition, it is on record that there have been over 4000 oil spills in Nigeria since 1960, while gas flaring from oil extraction has resulted in serious air pollution problems, especially in the Niger Delta area. The consequence of this is the loss of flora and fauna (see Country Analysis Brief, 2003). There are also extensive areas of wasteland consequent on several decades of poor mining practices, especially in the Jos tin mine and Enugu coal mining areas (see Figure 1).



There is excessive pressure on available urban resources, infrastructure and space, evident in cities such as Lagos, Port Harcourt, Ibadan, Umuahia, Kano, Kaduna, and Maiduguri and, recently, Abuja (Federal Capital Territory-FCT) and its satellite towns. Industrial pollution from the more than 5000 industrial facilities and, perhaps, another 10 000 small-scale industries—some operating illegally within residential premises—is a growing problem in Nigeria. In places such as Kano, Kaduna, Port Harcourt, Warri and Lagos, coloured, hot and heavy metal-laden effluent, especially from the textile, tannery, petrochemical and paint industries, is discharged directly into open drainages and channels, constituting a severe danger to water users downstream. Another disturbing feature is the practice engaged in by some industrial facilities of burying their expired chemicals and hazardous waste in their backyards, threatening the water supply quality of innocent neighbours who rely on dugout wells for drinking water. Plants are no longer widely used for landscaping. High-rise buildings and other commercial centres have displaced areas earlier earmarked as low-density residential areas in major cities, such as in Ikoyi and Victoria Island, Lagos.

In most cities, waste heaps dot several areas, blocking motorways and making passage along alleys and pavements difficult. Municipal waste disposal and sewage problems are particularly serious in all urban centres. Most importantly, major urban centres are characterized by: (i) various non-biodegradable household petrochemical products, such as polythene bags, plastic containers, styrofoam packages and tyres which litter Nigerian cities; and (ii) about 80 million litres of crankcase oil disposed of from mechanical workshops, industries, power stations and commercial houses, discharged carelessly into drains and ground surfaces in the cities. The country's new capital city of Abuja (FCT) is a pathetic example of this development, where insufficient effort is made to ensure adherence to the provisions of the master plan. The areas earmarked for greenbelts are being taken over by corner shops.

Furthermore, Nigeria's wildlife is disappearing rapidly due to various environmental malpractices. Animals that have disappeared from Nigeria in recent times include the cheetah, the pygmy hippopotamus, the giraffe, the black rhinoceros and the giant eland. An estimated 484 plant species in 112 families, including many medicinal and fruit trees, are also threatened with extinction because of habitat destruction and deforestation. Indeed, Adedoyin (2001) noted that

undisturbed forest covers 12,114 km<sup>2</sup> representing only 1.3 per cent of the country's total land area. This is not surprising given the prevailing deforestation rate of 3.5 per cent (FAO, 1994) implying that there is annual cut of an area the size of all plantations ever established in the country.

More details are provided later.

#### *An Assessment of Regulatory Frameworks*

Generally speaking, the following may be said about previous environmental policies in Nigeria. Indeed, Ikporukpo (1983, p. 303) summarizes by saying, "apart from a few poorly executed policies dealing with specific problems, there was no articulate general environmental policy in Nigeria before 1981".



This statement is true of the situation afterwards, until perhaps the formulation of the Vision 2010 policy on the environment. In fact, Areola (2001) added that

the experience with environmental policy formulation in Nigeria does not conform to the ideal situation and that the essential ingredients have been generally lacking. Policy formulations have been largely limited by paucity of real technical data and information on the environment and resources. In addition, major policy formulations have been done piecemeal often in response to crisis situations that arose following some great environmental disasters.

Apart from this, public debate on environmental and resource management has been greatly limited. This is partly because of the long absence of parliamentary democracy and the generally low level of public enlightenment/awareness of such issues. Even when such debate has taken place, the focus, more often than not, has always been on formulae for sharing the revenue derivable from the exploitation of natural resources between the three tiers of government—federal, state and local government. In addition, environmental policies have been dictated by the interest, opinions and perspective of small groups of people, including professionals, organizations, ethnic nationalities/militias, administrators, international and local environmental pressure groups and non-governmental organizations.

Furthermore, environmental policy has never been viewed or approached in a systematic or holistic manner. This piecemeal approach to meet the exigencies of each period also reflects the weakness of official national planning machinery and the lack of political will and honesty of purpose on the part of the ruling classes. Indeed, environmental management has had to contend with traditions and customs which are patently antithetical to modern Western-orientated precepts of resource management and conservation. Thus, the environmental landscape in Nigeria is replete with several policy documents on disparate environmental subjects which give a picture of lack of co-ordination. Although, a few of the more recent pieces of legislation are comprehensive and focused in their formulations, many suffer from inconsistencies and archaic provisions which are grossly inadequate to meet present realities (see Areola, 2001 for more details). A few of these previous policies may be instructive here. For instance, a new comprehensive policy on solid mineral which seeks to

ensure an orderly development of the mineral resources of the country by providing clear rules for predictable behaviour of the authorities, unambiguous regulations for the exploitation of the minerals and a clearly prescribed pattern of such development with roles of the different actors clearly defined

emerged only in 1998, a year after the Vision 2010 document was formulated (see Ministry of Solid Mineral, 1999). The policy also defined the role of public and private sectors in the exploitation of the nation's solid mineral resources. Earlier, there were different policies for different solid minerals under different management committees. Tracing Environmental Impact Assessments (EIAs) in Nigeria, Ogunba (2004), established that the current practices of the three EIA systems are at different stages of evolution: one of the EIA schemes (the Town and Country Planning Decree) has not evolved satisfactorily, while the other two EIA systems have produced intricate legislations and guidelines, but fall



short of first-rate practice. In addition, the simultaneous use of three independent systems creates unnecessary duplication of EIA preparation, with considerable time and money costs. Urban planning and land use have suffered from absence of land planning statutes that encompass the evolving functions and responsibilities of urban areas (see Taylor, 2000 for details). The Vision 2010 policy emerged following the foregoing scenario on Nigeria's environment.

### **Nigeria's Environmental Vision: an Overview**

This section analyses Nigeria's environmental vision as enunciated in the Vision 2010 report. The various aspects covered include erosion, flooding, oil and industrial pollution, urban decay, municipal solid waste, and loss of fauna and flora. In general terms, the basic objective of the vision is: "... to have a safe and healthy environment that secures the economic and social well-being of the present and future generation" (Federal Republic of Nigeria, 1997, p. 100). The specific policy objectives and the strategies for achieving these objectives are examined critically. Figure 1 clearly shows the spatial pattern of these problems, particularly the states and affected locations.

#### *Policy Objectives*

Although 14 policy objectives are covered in the Vision document, given the fact that some of these policies are interrelated, and/or occur more or less in the same environment, they are regrouped into six in the analysis that follows. These are: (i) biodiversity conservation and erosion control; (ii) desertification and drought; (iii) pollution from mining and industrial activities; (iv) water resources; (v) human settlement; and (vi) environmental planning. The details are contained in the *Report of the Vision 2010 Committee* main report (Federal Republic of Nigeria, 1997, pp. 101–102).

The issues of biodiversity conservation and erosion control are intricately interrelated given the fact the areas of severe biodiversity loss coincides more or less with major areas of severe erosion problems. Whereas, the policy on biodiversity is to "ensure complete security of the country's flora and fauna", the related one on forest protection is to "increase forest reserves from the present 10 per cent to 25 per cent of the total area of the country by the year 2010", while the policy on erosion control is to "stabilize all gully and coastal erosion sites nation-wide, restore all amenable sites and enforce management practices aimed at preventing/minimizing the incidence of erosion". The policy objective on desertification and drought is to "stop desert encroachment, rehabilitate affected areas and institutionalize measures that mitigate drought".

The policy objective on mining activities is "to prevent and reduce mining-related pollution and environmental degradation, reclaim and restore all identified and degraded mining wastelands", while the policy on industrial and oil pollution emphasizes "full compliance with pollution control standards in industries, motor vehicles, aircraft and generating plants". Given the fact that petroleum exploitation is the main stay of the economy, there is considerable emphasis on oil pollution in the report. The emphasis on petroleum is also informed by the fact that pollution from oil spills, oil well blowouts, oil blast discharges and improper disposal of drilling mud from petroleum prospecting have emerged as some of the most critical problems in the oil-producing areas.



The policy objective on water resources "is to ensure optimal development of water resources on an environmentally sound and sustainable basis for food production, water supply, hydropower generation, transportation and recreational uses" and to eliminate water hyacinth and other invasive plants from all the waterways. The basis for this is that since the early 1990s those plants have become a major problem to the coastal lagoons, creeks and rivers.

The focus on human settlement "is to achieve a state of environmentally sound human settlements free of slum conditions in which all have access to adequate and affordable shelter, efficient infrastructure and services to foster sustainable economic growth", while "the integration of environmental issues into economic policy formulation, planning and decision making" is proposed. The Vision 2010 realizes the fact that there cannot be meaningful environmental management without planning. Perhaps the basis for this is the realization that agencies responsible for the environment, to enforce laws and regulations, particularly with respect to urban planning and development, industrial standards, citing of public buildings and residential quarters have variously failed in their mandates.

#### *Instruments/Strategies for the Achievement of Policy Objectives*

*Biodiversity conservation and erosion control.* The strategies on biodiversity conservation in Vision 2010 include taking inventories; identifying and rehabilitating the threatened and endangered species of flora and ecosystems; and increasing the network of protected areas to include all ecosystem types. In addition, the promotion and enhancement of measures for both *in situ* and *ex situ* conservation through identification, inventories, evaluation, monitoring, research, education, public awareness and training; and increasing the nation's biodiversity management capabilities are to be pursued. The encouragement of viable afforestation and reforestation programmes; international co-operation and partnership arrangements on training, research, development and transfer of affordable environmentally sound technology, and the provision of new and additional technical and financial resources are to be encouraged. In order to do this, a survey of degraded lands, and implementing preventive measures for lands that are not yet degraded or which are slightly degraded, is to be carried out.

As part of the general strategy, there will be control on the export of logwood until a 25 per cent forest reserve cover is achieved. An institutional environment favourable for private investment in trees/forest resources management, together with increased community participation in forest management and afforestation with species which provide other produce such as fruits, gum, are to be pursued. It is expected that a total of 15 million hectares of plantation, comprising plantings for purposes such as shelterbelt (the planting of multiple rows, drought-resistant trees such as *Parkia biglobosa*, *Azadirachta indica* (*neem*) across the path of the prevailing wind to ameliorate the movement of sand dunes, wind speed, etc.), watershed conservation and rehabilitation of degraded sites, will be established.

Strategies also include the manufacture of affordable biomass stoves, development of alternative sources of energy, such as solar energy; and supporting research into conservation and improvement of soil, genetic resources and silviculture. The erosion control strategy involves enforcement of regulations for soil and water conservation, especially in erosion-prone areas. In addition, there will be a national watershed delineation and characterization for use as a basis



for development of an aggressive management and enforcement programme to protect and maintain the quality of the nation's land, water and coastal resources.

*Desertification and drought.* The main thrust of the strategy involves implementing the UN Convention to Combat Desertification (CCD). The CDD, ratified by 60 countries on 14 January 1997, is meant, "to combat desertification, particularly in Africa through international co-operation and partnership with a view to improving land productivity, and hence the sustainable management of land and water resources" (UN, 1997). Other related strategies included in Vision 2010 are: (i) strengthening national and state institutions involved in drought and desertification control programmes; (ii) establishing drought early warning systems; (iii) involving the local people in the design, implementation and management of natural resources conservation programmes for combating desertification and ameliorating the effects of drought; (iv) adopting an integrated approach in addressing physical, biological and socio-economic aspects of desertification and drought; and (v) establishing, reviewing and enforcing cattle routes and grazing reserves.

*Pollution from mining and industrial activities.* The strategies on mining-related pollution and environmental degradation are to reclaim and restore identified degraded mining wastelands; taking an inventory of existing and closed mining sites; and enforcing compliance with national mining laws and regulations, especially the EIA law, particularly in the Jos tin mining areas and the Niger Delta where petroleum oil is largely produced. Other strategies include provision of financial incentives to assist and encourage the reclamation of abandoned mining sites; and encouraging public participation through dialogue with affected communities and other directly interested parties on the environmental aspects of different phases of mining activities. The specific strategies on oil pollution include continually updating the national spill contingency plan for control, containment and cleaning; and ensuring an internal and external market for gas and establishing stiff penalties for gas flaring.

The strategies on industrial pollution are to review existing national guidelines and standards to include industries, vehicles, generating sets and aircraft, and maintaining an effective database for approval and compliance status. In addition, the introduction and enforcement of emission control certificates for vehicles, generating sets and aircraft by 1999; and building secondary central treatment facilities in all major industrial estates by 2005 are to be vigorously pursued. Others include: (i) introducing the 'polluter-pays' principle; (ii) promoting research on Best Available Technology Effective for Local Adoption (BATELA); (iii) making eco-labelling compulsory by the year 2000; (iv) creating environment funds for soft loans and incentives for environment-related and economic activities in industries; and (v) introducing tax rebates for industries for meeting pollution-free standards.

In order to achieve the policy objective on hazardous/toxic chemicals and waste, industries are required to change to cleaner production methods, adopt preventive and recycling technologies and treat, recycle, re-use and dispose of waste at or close to the site where the waste is created. Other strategies include phasing out/banning high-risk chemicals that are toxic, persistent and bio-accumulative, whose use cannot be controlled or monitored adequately; and the provision of treatment plants for hazardous waste. In order to ensure proper



monitoring and enforcement, environmental auditing of industries is also envisaged.

*Water resources.* The strategies on water resources are to provide potable water in all urban and rural areas; ensuring the implementation of the Water Resources Decree 101 of 1993; and developing water quality inventories and maps. Basically, the provisions of the 1993 Decree are to: (i) promote the optimum planning, development and use of Nigeria's water resources; (ii) ensure co-ordination of such activities as are likely to influence the quality, quantity, distribution, use and management of water; (iii) ensure the application of appropriate standards and techniques for the investigation, use, control, protection, management and administration of water resources; and (iv) facilitate technical assistance and rehabilitation for water supplies.

Polluted water, both surface and groundwater, especially in the large cities and the delta areas, are to be restored, while research into groundwater and saline water intrusion, and developing sustainable irrigation practices for food production are to be promoted. The inventory of the spread of water hyacinth and other invasive weeds in all waterways should be undertaken; and an infestation index to determine control options should be developed. In addition, an appropriate integrated control option to ensure that the weeds are no longer a menace and the encouragement of sub-regional co-operation are to be adopted.

*Human settlement.* The strategies on sustainable human settlements of Vision 2010 are to ensure appropriate implementation and monitoring of master plans for major towns where they exist and prepare for, and implement where they are non-existent or out of date. In addition, private sector and community participation in urban renewal activities, and housing and infrastructure provision are to be encouraged. Realizing the poor state of data on human settlement, a National Human Settlement Data Bank (NHSDB) is to be established to provide baseline information that can be used to better plan for sustainable human settlements.

Basically, the strategies to achieve the stated policy objectives on municipal solid waste management include the promotion of education and awareness on waste prevention, separation of waste at source of generation, and other environmentally sound municipal waste management approaches, such as recycling. In order to do this, existing laws and regulations are to be strengthened. The participation of the private sector and community-based organizations is also to be encouraged.

*Environmental planning.* The components of the strategy in Vision 2010 include preparing comprehensive hazard maps and vulnerability analysis for the country by compiling historical data of disaster occurrence; and employing satellite imagery and GIS system to provide the hazard maps. In addition, the establishment of very effective early warning systems for meteorological, geophysical, biological, social and industrial hazards is to be pursued. Furthermore, the development and maintenance of prompt emergency response mechanisms and contingency plans for easy mobilization at times of disaster and establishing a body to co-ordinate emergency response to reduce duplication of efforts are to be put in place.

In addition, the training of decision makers on the basic tenets of environment and sustainability on a continuing basis; and institutionalizing environmental



responsibility through regular competitions and awards (such as cleanest village in each local government area, cleanest local government in each state, and cleanest state of the federation) are deemed essential. Also, public enlightenment campaigns on environmental degradation and promotion of integrated ecosystem management are to be pursued. Conservation practices are to involve environmentally sound recreational use, national capacity building through personnel development, provision of training facilities and research in combating climate-related ecological problems. The preceding analysis shows that Nigeria's environmental Vision 2010 is quite comprehensive both in terms of the policies and strategies. In the next section, the policies and particularly the strategies to achieve the specific objectives are appraised.

### Appraisal of the Vision 2010

In this section, the various strategies for achieving the policy objectives of Vision 2010 are appraised. The basic interest is to analyse how feasible the policies are. The appraisal is at two broad sections. These are general and more specific issues.

#### *General Issues*

As indicated earlier, experience has shown that environmental policy in Nigeria has been bedevilled with paucity of real technical data and information on the environment and resources, low level of public enlightenment, dictated by the interests, opinions and perspectives of only small groups of people, and has had to contend with traditions and customs which are patently antithetical to modern methods of resource management and conservation, and replete with several policy documents which give a picture of lack of co-ordination (see Areola, 2001).

The Vision 2010 on the environment has suffered two major setbacks. First, there has been a very low level of public awareness/enlightenment about the provisions. Secondly, given the enormity and multifaceted nature of environmental problems in Nigeria, the national budgetary allocation of only 1 per cent, which recently increased to 2 per cent, is grossly inadequate to combat environmental problems. The implication of this is that Nigeria is not particularly serious about addressing its environmental problems. Environmental protection/conservation is still very low on the nation's agenda. For instance, Table 1 shows that Nigeria, which has 27 protected areas representing 3.3 per cent (3 021 000 ha) of the country, is placed ninth in terms of percentage of land area in the West African sub-region. The Nigeria situation is worse still when compared with the situation in Eastern and Southern Africa. For instance, Rwanda in East Africa has six protected areas, representing about 14 per cent of the land area. Botswana, Namibia and Tanzania all have well over 10 per cent of their land area under protection. Indeed, the area under protection is as high as 18 per cent in Botswana and about 15 per cent in Tanzania. UNEP (2002) shows that whereas Nigeria has less than 1000 ha of internationally protected biosphere reserves, Niger has more than 25 million, Mali more than 2 million, while Senegal and Cote d'Ivoire each has more than one million hectares. In terms of World Heritage sites, Nigeria so far has none. In contrast, Cote d'Ivoire has three, extending over 1.5 million hectares, Niger has two, nearly 8 million hectares and Kenya also two, extending over 300 000 hectares.



Table 1. Nationally protected areas in some African countries

Countries	Number	Terrestrial area (000 ha)	% of land area	Marine number
<i>West African</i>				
Benin	2	778	6.9	—
Burkina Faso	12	2855	10.4	1
Cote-d'Ivoire	11	1986	6.2	3
Gambia	6	23	2.0	5
Ghana	10	1104	4.6	—
Guinea	3	164	0.7	1
Guinea Bissau	0	0	0.0	2
Liberia	1	129	1.2	—
Mali	13	4532	3.7	—
Mauritania	9	1746	1.7	5
Niger	6	9694	7.7	—
Nigeria	27	3021	3.3	—
Senegal	12	2181	11.1	7
Sierra Leone	2	82	1.1	—
Togo	9	42	7.6	1
Sub-total	123	28 724		25
<i>East African</i>				
Eritrea	3	501	4.3	—
Ethiopia	21	5518	5.0	—
Kenya	50	3507	6.0	1.4
Rwanda	6	362	13.8	—
Somalia	2	180	0.3	2
Uganda	37	1913	7.9	—
Sub-total	119	11 981		16
<i>South African</i>				
Angola	13	8181	6.6	4
Botswana	12	10 499	18.0	—
Lesotho	1	7	0.2	—
Malawi	9	1059	8.9	—
Mozambique	11	4779	6.0	7
Namibia	20	10 616	12.9	4
South Africa	390	6619	5.4	20
Tanzania	39	13 817	14.6	9
Zambia	35	6366	8.5	—
Zimbabwe	48	3071	7.9	—
Sub-total	578	65 014		44

Source: Compiled from UNEP (2002).

Nigeria's *Millennium Development Goals Report* (Federal Republic of Nigeria, 2004) on the environment has shown that, despite institutional framework, achievements relating to environmental protection and resource management have been rather limited and sustainable development is being threatened by a number of problems, including land degradation, pollution, flood and erosion, desertification, inefficient use of energy resources, loss of biodiversity, environmental disasters and deforestation. This confirms that seven years after the submission of the Vision 2010 report on the environment, the attainability of the policy objectives is in doubt. This is further reflected in the analysis that follows.



### Specific Issues

*Biodiversity conservation and erosion control.* Generally speaking, Nigeria is an agrarian society where peasant farming predominates and fuel wood is still the dominant source of domestic energy. Nigeria consumes well over 50 tonnes of fuel wood annually, a rate that far exceeds the replenishment rate through various afforestation programmes (Federal Ministry of Environment of Nigeria, 1997). The depletion of the forest has continued unabated largely because the alternative to fuel wood—kerosene or gas—is increasingly becoming economically out of reach of the urban poor and rural dwellers. Figure 2 shows that the price of kerosene, which was only NGN = 0.018 per litre in 1973, increased to NGN = 0.105 per litre in 1986 and to NGN = 0.4 per litre in 1991. It further rose to NGN = 6.00 per litre in 1994, NGN = 17.00 per litre in 1998 and 2000, increased astronomically to NGN = 38.5 per litre in 2003 and NGN = 52.57 per litre in 2004. It is, therefore, very doubtful whether the policy on forest protection would be achieved, given the fact that kerosene is continually being priced out of the reach of the majority of the populace.

The rate of deforestation in Nigeria has been estimated at 400 000 ha pa (Ruby, 1991) compared with reforestation of about 1043 ha (CBN, 2002). In the last two decades, the average annual rate of deforestation grew from 0.7 per cent in 1980–90 to 0.9 per cent in 1990–95 and 2.6 per cent in 1990–2000. This translates to a loss of 1200, 1214 and 3984 km<sup>2</sup>, respectively (World Development Indicators 2000–2003; Federal Republic of Nigeria, 2004). In terms of area, FAO (2001) reported that apart from Niger, Nigeria and Cote d'Ivoire have by far the greatest annual loss of forest cover in West Africa. This high rate of annual loss has been attributed mainly to poverty, socio-economic needs and ignorance of landowners, inadequate funding and political factors (Udo, 1992; Wood, 1990). It is on record that the forest resource base (mangrove, fresh water swamp and lowland rain forests) has decreased from 7 623 600 ha in 1976–78 to 6 283 400 ha in 1993–95—a decrease of about 18 per cent in forest resource base in only seven years (FORMECU, 1999). In the same vein, the Forest Resources Survey, 1996–98, revealed that the forest cover in the country decreased by about 20 per cent

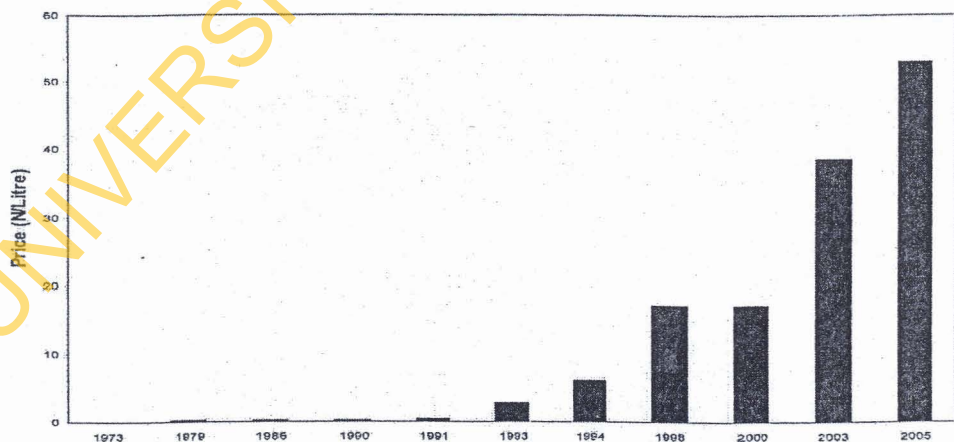


Figure 2. Retail price of Nigeria's kerosene (NGN = per litre), 1973–2005. Source: adapted from Federal Republic of Nigeria (2000b, p. 5) and pages of newspapers



over the preceding 18 years, i.e. between 1978 and 1996. Indeed, the total forest estate, which stood at 10 per cent of the country's land area in 1976, is now less than 6 per cent. It has been estimated that at least 250 000 ha of the country's tropical forests are destroyed each year to earn Nigeria a place among the 14 tropical countries faced with the problem of deforestation. Adedoyin (2001) has further shown that the projected yield from the forest estates, which was 8273 m<sup>3</sup> in 2000 would be 7316 m<sup>3</sup> in 2010. In this case, Nigeria would have experienced a decrease of 11.5 per cent yield from forest estates in just a period of ten years.

The establishment of shelterbelt (the planting of multiple rows, drought-resistant trees) to ameliorate desert-like conditions, though on the increase, is still largely restricted to a few states in the northern part of the country, especially Kano and Kaduna. There are only patchworks of shelterbelts and wood lots planted mainly by government in the north, made possible with the assistance of development partners such as the World Bank and the European Union. Apart from over ten million seedlings that were raised annually between 1978 and 1994 and about 150 km of shelterbelts, 3680 ha of woodlots, 24 boreholes and 70 tree nurseries (Federal Ministry of Environment of Nigeria, 1997), not much has been done in recent years. This further confirms the government's generally low level of commitment to forest protection and biodiversity conservation. Given the high rate of deforestation and forest resources loss without corresponding afforestation programmes, it is unlikely that the increase in forest reserve from less than six per cent in 1997 to 25 per cent of the total land area by year 2010 would be attainable. However, the government has established research centres on potential solar energy in Sokoto and Jigawa states in the north and Nsukka in the east.

The strategies to combat the menace of erosion, though seemingly simple, may be very difficult to achieve given the widespread erosion and erosion-related problems across the country. For example, Ofomata (1976, 1981) captures the grim picture of erosion in the eastern states of Nigeria. Accelerated erosion, especially fluvial and sheet erosion cover over 70 per cent of the land area of the eastern states of Nigeria (covering the present states of Abia, Akwa Ibom, Anambra, Bayelsa, Cross River, Ebonyi, Enugu, Imo and Rivers; see Figure 1). This amounts to 51 810 km<sup>2</sup> (68.63 per cent) compared with 22 460 km<sup>2</sup> (29.75 per cent) under geological erosion and 1218 km<sup>2</sup> (1.61 per cent) under gully erosion of the entire land area.

In terms of coastal and marine erosion the emphasis is on Bar Beach, Lagos. The government has undertaken the reclamation of Bar Beach. It is in this connection that the Lagos State Government has proposed a tripartite co-operation to involve the Federal Government, Foreign Investors and itself to the tune of NGN = 12 billion to combat the menace. The state government has expressed readiness to pay NGN = 3 billion as counterpart funding. It has also requested the Federal Government to pay the same amount, while it intends to woo foreign investors to come up with NGN = 6 billion to make up the NGN = 12 billion budget (*The Punch*, Friday February 7, 2003, p. 7). Perhaps this area has attracted attention because of the prime properties along Bar Beach. Other areas of coastal erosion have remained largely neglected. The policy to stabilize all gully and coastal erosion sites nationwide, restore all amenable erosion sites and enforce management practices aimed at preventing/minimizing the incidence of erosion may be difficult to attain if current trends in funding and management continue into the future.



**Table 2.** Area and production figures for afforestation programme, 1992 and 1993

State	Number of seedlings produced		Number of trees planted		Shelterbelt (km)	
	1992	1993	1992	1993	1992	1993
Bauchi	682 950	954 500	2848	3982	18.5	41
Borno	1 700 000	952 000	3000	4000	23	53
Kano	1 998 000	1 634 500	10 200	6500	32.5	80
Katsina	758 000	512 790	2650	2870	6	2
Sokoto	1 555 875	N/A	6179	5918	50	3
Plateau	2 368 500	2 466 500	1340	9825	N/A	N/A
Kebbi	1 150 000	1 319 400	3782	3656	43	75
Jigawa	1 393 000	1 883 500	16 500	17 824	60	60
Yobe	700 000	1 115 000	3700	4000	47	44

N/A, not applicable.

Source: Compiled from *Nigeria Annual Abstract of Statistics*, 2001 edition (Federal Office of Statistics, Abuja), p. 384.

*Desertification and drought.* Very little effort is being made to combat the problem of drought and desertification. This is reflected in the relatively unimpressive pace of afforestation, seedling production and the provision of shelterbelts. Table 2 which displays the situation (based on the most recent data available) is a clear indication. For instance, Katsina, one of the most affected states, provided only 6 km and 2 km of shelterbelts in 1992 and 1993, respectively. Sokoto, another severely affected state, while providing 50 km of shelterbelt in 1992, provided only 3 km in 1993. There is no doubt that the figures for other severely affected states, such as Kano and Bornu, are more impressive. Be this as it may, on the whole, the provision of shelterbelts is not keeping pace with the rate of desertification, in spite of the seemingly impressive support from agencies such as the International Bank Reconstruction and Development (IBRD), the African Development Bank (ADB), European Economic Commission (EEC) and Japanese International Cooperation Agency (JICA) (see Table 3 for details). Governments in the past have taken many preventive measures, most of which were either not commensurate with the magnitude of the problem or were not sustained, resulting in the spread of desertification (Obasanjo, 2004). It is, therefore, doubtful if the policy of stopping desert encroachment can be attained given present trends.

*Pollution from mining and industrial activities.* Attempts at making people aware of the adverse effects of the various forms of pollutants arising from industrial and air pollution are still haphazard, uncoordinated and, at best, rudimentary. Given the present level of pollution and the very low level of public awareness, it may be difficult to achieve 100 per cent compliance with both international and national regulations on this aspect of the Nigerian environment by the year 2010.

On mining-related pollution and environmental degradation, experience has shown that even when legislation is made in this direction, the monitoring of the implementation of such legislation by government officials, who failed to impose the restoration clauses following prohibitive costs of operations, has proved ineffective. The mining companies are usually not too willing to surrender their mining leases, given the fact that a mined area could still be holding as yet



Table 3. Externally funded (completed) afforestation projects in Nigeria

Project	Location/State	Funding agency	Targets
Afforestation Programme	Kano and Jigawa	IBRD	Production of seedlings for Farm Forestry and Shelterbelts.
	Bauchi	IBRD	Establish nursery to produce 2324 million seedlings for Farm Forestry and shelterbelts.
	Plateau	IBRD	Establish new nursery and rehabilitate others to produce 127 million seedlings for farm forestry.
	Sokoto	IBRD	Rehabilitation of nursery and production of seedlings for farm forestry and shelterbelt establishment.
	Bornu	IBRD	Establish new nursery and rehabilitate old ones to produce 737 million seedlings for farm forestry.
	Katsina	IBRD	Farm Forestry projects, 3.4 million seedlings be produced. Old nurseries to be upgraded.
	Yobe	IBRD	Establish new nursery and rehabilitate old ones to produce seedlings for farm forestry and shelterbelt establishment.
	Kebbi	IBRD	Rehabilitation of nursery and production of seedlings for farm forestry and shelterbelt establishment.
Forest Management Programme	Kogi	IBRD	Management of 2035 ha of plantation already established. Establishment of 700 ha plantation.
	Kaduna	IBRD	Establishment of 2450 ha of eucalyptus and pine plantation and development of management regimes for existing plantations at Afaka, Ribako and Nimbia.
	Ogun	IBRD	Maintain fire prevention and fire control system in about 17 000 ha <i>Gmelina</i> and 3760 ha of teak plantations, maintain roads and thin the plantation.
	Ondo	IBRD	Maintain fire prevention and fire control system in <i>Gmelina</i> plantations, and thin the plantation.
Forestry Development Project	Ogun	ADB	Maintenance of existing 11 363 ha of <i>Gmelina</i> plantation and 430 ha of teak plantation.
	Ondo	ADB	Establishment of 5400 ha of <i>Gmelina</i> plantation and 600 ha of trial plantations of indigenous and pine species.

(Table continued)



Table 3. Continued

Project	Location/State	Funding agency	Targets
Arid Zone Afforestation Project	Sokoto, Kebbi, Kano, Kaduna, Katsina, Jigawa, Bauchi, Yobe, Borno and Adamawa	FGN	Production of 2 million seedlings annually for the establishment of woodlots. Establishment of 200 km shelterbelts. Procurement and distribution of fencing materials for participating farmers. Monitoring of project performance in all participating states.
Katsina State Afforestation Project	Katsina State	EEC/FGN	Annual establishment of 5 km of shelterbelts. Establishment of 400 ha windbreaks. Production and distribution of 1 million seedlings to participating farmers.
Environmental Management Programme	All States	IBRD/FGN	Establishment of 165 ha woodlot. To strengthen Nigerian environmental organizations and assist them in implementing their programmes. To establish a programme of data collection that enables the government to measure levels of environmental degradation and be aware of environmental trends over time. To complete a series of sector investigation and feasibility studies leading to soundly conceived programmes.
National Forest Resources Study	Abia, Anambra, Akwa-Ibom, Cross-River, Delta, Edo, Enugu, Imo, Lagos, Ogun, Ondo, Osun, Oyo, Rivers, Kaduna, Kwara, Kogi, and Taraba	ADB/FGN	Development of data acquisition capability through aerial photography as well as the collection of forest resources data and preparation of maps and forest operation manuals. The last four encompass the plantation study aspect of the study.
FRIN/JICA Trial Mechanized Afforestation Project	Afaka,	International Cooperation Agency	Trial afforestation project in semi-arid areas for the purpose of establishing afforestation techniques. The project covered collection of useful data for Japanese selection of species.
	Kaduna State	(JICA)/FGN	Establishment of afforestation technology and estimation of forest management cost. The project established 74 294 ha over the five years of project life.

(Table continued)



Table 3. Continued

Project	Location/State	Funding agency	Targets
Cross River State Forestry Project	Cross River State	ODA/Cross River State Govt	Prepare a state forestry strategic management plan to ensure sustainable management and utilization of the state's forest resources. Strengthen the human resource capabilities of the forestry sector etc.

Source: Adapted from Adedoyin (2001, p. 65).

undiscovered mineral occurrences (Areola, 2001). Coupled with this is the frequent communal strife, occasioned by neglect of host communities by government and mining companies, and unstable terms of business and policy environment, which complicate the problem. The strategies to reclaim and restore all identified and degraded mining wasteland may remain a mirage after all unless the full force of restoration clauses are brought to bear on such mined wastelands.

The strategies aimed at eliminating the incidence of oil spillage, gas flaring and oil pollution by the year 2010 look rather simplistic, given the enormity of this problem. Table 4 shows that a total of 4647 oil spills were recorded in Nigeria between 1976 and 1996. On average, this amounts to about 221 spills per year. The number of spills fluctuated over the years. While it was only 128 in 1976, it increased to 241 in 1980. By 1985, a total of 187 spills was recorded and the figure increased again to 228 in 1989. The number of spills has consistently been on the increase since 1991. While it was 258 in 1991, it rose to 417 in 1995. This represents an increase of about 62 per cent in five years. Indeed, between 1993 and 1995, there was no year where the number of spills was less than 400. The number of spills rose to 495 in 1994 but reduced to 417 in 1995 and 158 in 1996.

Ikporukpo (1986, 1995, 2002) has shown that sabotage and blockage by the people in the oil-producing areas is one of the causative factors in oil spills. Indeed, of the total 340 oil spills that were recorded in the Shell Petroleum Development Company's (SPDC) operational area in the year 2000, 137 (40.3 per cent) were attributed to sabotage. This cause alone accounted for 57 per cent of the 30 751 barrels spilled and has thus become one of the major causes of oil spills in very recent times. Given the complexity of the causes of oil spills, it is very doubtful if it is possible to achieve the objective of eliminating oil spills by the year 2010.

Closely related to the issue of oil spillage is gas flaring which has become a major area of concern in the oil industry. Gas flaring from oil extraction has resulted in serious air pollution problems in the Niger Delta area. Nigeria flares more gas than any other country in the world. The percentage of gas flared in Nigeria, which is about three times the OPEC average, is about 16 times the world average. Figure 3 clearly indicates that the gas flared was never less than 70 per cent of the total gas produced in any of the years from 1970 to 1998. The percentage flared, which was well over 90 per cent in most of the years between 1970 and 1980, witnessed a gradual decrease to 78 per cent in 1982, rose again to 80 per cent in 1985 and fluctuated between 72 per cent in 1987 and 80 per cent in 1994, reducing as low as 54 per cent in 2000. If this near 10 per cent reduction



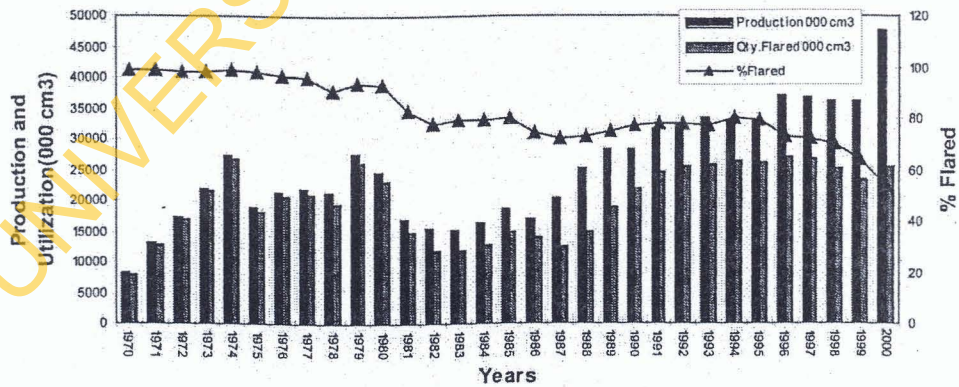
**Table 4.** Number of spills and quantity of oil spill in Nigeria, 1976 and 1996

Year	Number of spills	Quantity of oil spilled (barrels)	Quantity recovered (barrels)	Net volume lost to the environment (barrels)
1976	128	26 157.00	7 135.00	19 021.50
1977	104	32 879.25	1 703.01	31 176.75
1978	154	489 294.75	391 445.00	97 849.75
1979	157	094 117.13	63 481.20	630 635.93
1980	241	600 511.02	42 416.83	558 094.19
1981	238	42 722.50	5 470.20	37 252.30
1982	257	42 841.00	2 171.40	40 669.60
1983	173	48 351.30	6 355.90	41 995.40
1984	151	40 209.00	1 644.80	38 564.20
1985	187	11 876.60	1 719.30	10 157.30
1986	155	12 905.00	552.00	12 358.00
1987	129	31 866.00	25 757.00	25 757.00
1988	208	9 172.00	1 955.00	7 207.00
1989	228	5 956.00	2 153.00	3 803.00
1990	166	14 150.35	2 785.96	12 057.80
1991	258	108 367.01	2 785.96	105 912.05
1992	378	51 187.90	1 476.70	49 711.20
1993	453	8 105.32	2 037.08	6 632.11
1994	495	35 123.71	2 335.93	32 787.78
1995	417	63 677.17	3 110.02	60 568.15
1996	158	9 903.667	1 183.807	38 719.860
Total	4647	2 369 470.04	549 060.38	1 820 410.50

Source: Niger Delta Environmental Survey Committee (1997).

per annum is maintained, there is the likelihood that Nigeria may be able to bring about a total elimination of gas flaring in the country by the year 2005.

The perceived indifference of both the Federal Government and the oil companies to the environment in the Niger Delta has been heightened by Nigeria's lack of coherent pollution control policy. In spite of this, as at 2002, the SPDC of Nigeria completed remediation in 86 sites, commenced remediation in 186 sites



**Figure 3.** Gas production and utilization in Nigeria, 1974–2000. Source: adapted from various issues of CBN Annual Report and Statement of Account

and completed risk-based assessment of 75 per cent of major production facilities. In addition, the company has developed a regional conceptual model for remediation in the Niger Delta and completed mop-up assessment of 250 land facilities in general.

The government's plan to end gas flaring by 2008 will not only reduce greenhouse gas emissions, but also provide more gas for domestic consumption as well as for export through the West Africa Gas Pipeline (Country Analysis Briefs, 2003). This expected drastic reduction is feasible given the existing and planned gas utilization projects. For instance, there is a Liquefied Natural Gas (LNG) plant in Bonny, while others are planned for Brass, Escravos and Forcados (see Figure 1). Studies conducted by the Federal Environmental Protection Agency (FEPA) have shown moderate to high organic acids and hydrocarbons in the atmosphere, the majority of which come from automotive engines and industries (Country Analysis Briefs, 2003).

*Water resources.* Despite the huge investment since 1976, when Nigeria established 11 River Basin Development Authorities (RBDAs) to ensure optimum development of its water resources, only 30 per cent of the rural dwellers and 50 per cent of the urban population have access to potable water. Apart from this, the capacity utilization of dams is well below 30 per cent. Pressure on underground water resources has considerably lowered the water level in some aquifers and thus has resulted in saline incursion into coastal aquifers. Soil erosion, policy inconsistency and under-funding have inhibited water resources development (Federal Republic of Nigeria, 2000b). Indeed, Nigeria has developed only about 40 per cent of her water resources. It stands to reason therefore, that at best, by the year 2010 only about 56.7 per cent of Nigeria's water resources would have been developed at the current rate of about 1.7 per cent per annum.

*Human settlement.* In terms of human settlement, the strategies in previous Nigerian policies have either been executed haphazardly and/or in most cases abandoned mid-stream. In situations where some programmes were completed, the inhabitants/settlers have usually been left worse off than they were after some time, given the poor maintenance and management culture. Typical examples of model housing estates that have become slums abound in Lagos, Port-Harcourt, Kano and other major urban centres in the country.

The sordid state of municipal solid waste generation has assumed an alarming dimension, given the pace of urbanization and influx of migrants to major urban centres in the country. Clearly, available data show that urban wastes are generally on the increase (see Table 5). Lagos is a typical example. Solid waste generation increased by 9.1 per cent between 1982 and 1985, and by 16.1 per cent between 1985 and 1990. The increase between 1990 and 2000 is estimated at 32.1 per cent. The rising trend in the volume of waste generated in most urban centres stems from the high levels of population growth, poverty and poorly guided urbanization and industrialization. As many Nigerian cities pass the million mark in population, collection and disposal of wastes have become a major problem (Egunjobi, 1999). The poor waste management and land-use practices, use of obsolete and environmentally unfriendly technology and equipment, poor and non-functional waste management equipment and deteriorating services by decaying infrastructure may stall all efforts at effective management of municipal solid waste generated.



**Table 5.** Estimated and projected volume of solid waste generation in some Nigerian cities

Urban areas	Tonnes/year			
	1982	1985	1990	2000
Lagos	624 399	681 394	786 079	998 081
Ibadan	350 823	382 224	440 956	559 882
Kano	319 935	348 580	402 133	535 186
Kaduna	257 837	280 295	324 084	431 314
Onitsha	242 240	263 929	304 477	386 593
Port-Harcourt	210 934	229 821	265 129	352 853
Osogbo	131 903	143 712	173 720	253 841
Aba	131 903	143 712	169 719	236 703
Jos	99 871	111 905	134 272	197 660
Warri	67 477	75 607	91 396	133 531
Gusau	44 488	48 471	57 243	79 835
Potiskum	15 434	16 816	19 399	28 347
Uyo	12 508	13 628	15 721	20 923
Suleja	9383	10 514	13 311	21 336
New Bussa	5690	6200	7152	9518
Total	2 525 825	2 756 808	3 200 790	4 228 465

Source: adapted from Aina & Salawu (1992).

Inadequate funding is another major problem of this aspect of Nigeria's environmental problems. The Federal budgetary allocation to sewerage and drainage sector decreased from NGN = 3 745 954 in 1996-97 to NGN = 3 074 860 in 1997-98, thus representing a decrease of 24.4 per cent in only four years. Given inadequate funding, especially in cities such as Lagos, Ibadan, Abuja and Port Harcourt, it is unclear how 80 per cent effective management of the volume of municipal solid waste generated and ensuring environmentally sound management would be attained by the year 2010. This is especially so as the purported central treatment facilities in major cities are not yet in place. Indeed, Nnabogwu (2001) noted that currently the rate and intensity of solid waste generation far outpace the rate of disposal.

*Environmental planning.* Environmental planning in Nigeria has received little or no attention, despite the extensive strategies to mitigate the negative impacts of national and anthropogenic disasters in the national economy and the environment in general. There is, furthermore, a paucity of data on the incidence of hazards in the country. There have also been spontaneous responses to hazardous situations, especially in times of flooding. Even where they exist, policies on planning the environment have been neglected altogether, while public enlightenment campaigns on environmental degradation and promotion of integrated ecosystem management are rare and, at best, uncoordinated. In other words, only insufficient attempts are being made to integrate environmental issues into policy formulation, planning and general decision-making.

### Summary and Conclusions

This paper has analysed a major aspect of the Report of the Vision 2010 Committee on the environment. As a precursor, an overview of Nigeria's deteriorating

environment was presented by analysing the environmental status and assessing the earlier regulatory frameworks. The policy objectives and the instruments/strategies for the achievement of the policy objectives have also been analysed. A significant part of the analysis is an examination of the attainability of the set policy objectives. The paper has shown that there are severe environmental problems in Nigeria. These environmental problems manifest in the form of erosion and flooding, climatic change and ozone layer depletion, desertification, pollution from oil spills, well blow outs, ballast discharges and improper disposal of drilling mud from petroleum prospecting, excessive pressure on urban resources and infrastructure, and wildlife disappearance.

The earlier regulatory frameworks have been piecemeal, poorly executed and have never been approached in a systematic way. Many of the ones that existed have been inconsistent and replete with archaic provisions that are grossly inadequate to meet present realities, while urban planning and land use have suffered from absence of land planning statutes that encompass the evolving functions and responsibilities of urban areas. Experience has shown that the problem of environmental management transcends mere legislation; the major problem includes under-funding, mismanagement and, in most cases, inconsistencies and lack of will. The Nigerian environment is bedevilled with these problems basically arising from misuse of natural resources.

Although, the Vision 2010 document, judged to be the most comprehensive recent policy, has put in place the various policies and strategies to combat environmental problems in Nigeria by the year 2010, it is still doubtful how most of the set goals would be achieved. For instance, there has been a very low level of public awareness/enlightenment about the provisions of this policy and the instruments/strategies for the achievement of the policy objectives. Given the enormity and multifaceted nature of environmental problems in Nigeria, the national budgetary allocation of only one per cent, which recently increased to two per cent, is grossly inadequate to combat environmental problems. The implication of this is that Nigeria is not particularly serious about addressing its environmental problems. Environmental protection/conservation is still very low on the nation's agenda.

The foregoing is reflected further in Nigeria's *Millennium Development Goals Report* (2004) on the environment, which has shown that despite institutional framework, achievements relating to environmental protection and resource management have been rather limited. Furthermore, sustainable development is being threatened by a number of problems, including land degradation, pollution, flood and erosion, desertification, inefficient use of energy resources, loss of biodiversity, environmental disasters and deforestation. It is very doubtful whether the policy on forest protection would be achieved, given the fact that kerosene—an alternative to fuel wood energy and a major agent of deforestation—is continually being priced out of the reach of the majority of the populace, without corresponding afforestation projects. There are only patchworks of shelterbelts and woodlots planted mainly by government in affected areas, made possible with the assistance of development partners such as the World Bank and the European Union. Given the high rate of deforestation and forest resource loss without corresponding afforestation programmes, it is unlikely that the increase in forest reserve from less than six per cent in 1997 to 25 per cent of the total land area by year 2010 would be attainable.



Attempts at making people aware of the adverse effects of the various forms of pollutants arising from industrial and air pollution are still haphazard, uncoordinated and, at best, rudimentary. As a result of the present level of pollution and the very low level of public awareness, it may be difficult to achieve 100 per cent compliance with both international and national regulations on this aspect of the Nigerian environment by the year 2010. Given the complexity of the causes of oil spills, it is very doubtful if it is possible to achieve the objective of eliminating oil spills by the year 2010. However, the expected drastic reduction in gas flare is feasible given the existing and planned gas utilization projects.

This paper has also shown that the menace of erosion, though seemingly simple, may be very difficult to achieve given the widespread erosion and erosion-related problems across the country. It stands to reason, therefore, that, at best, by the year 2010 only about 56.7 per cent of Nigeria's water resources would have been developed at the current rate of about 1.7 per cent per annum.

The poor waste management and land-use practices, use of obsolete and environmentally unfriendly technology and equipment, poor and non-functional waste management equipment and deteriorating services by decaying infrastructure may stall all efforts at effective management of municipal solid waste generated. Inadequate funding is another major problem of this aspect of Nigeria's environmental problems. Environmental planning in Nigeria has received little or no attention despite the extensive strategies to mitigate the negative impacts of natural and anthropogenic disasters in the national economy and the environment in general.

In spite of the comprehensive nature of the Vision 2010 policy on the environment, various other policy documents have since emerged. These include, amongst others, the National Policy on Solid Mineral (1999), Federal Republic of Nigeria Direction (2000a) a major aspect of which is on the environment, National Action Programme to Combat Desertification (2001). This suggests that the Vision 2010 policy on the environment is not comprehensive enough and that, in spite of its provisions, Nigeria's environment is still largely faced with severe environmental problems.

The success of any policy objectives depends largely on the extent to which the people are mobilized. Mobilization can take the form of public enlightenment, awareness and education. No part of the society should be neglected in the implementation of the environmental policy objectives. Apart from making environmental education a part of education curriculum at all school levels and establishing Sustainable Development Units (SDU) at state government level, there is an urgent need to mobilize the people through public enlightenment and participation/involvement in environment planning. Mitigation of negative impacts of natural and anthropogenic disasters on human settlements, the national economy and the environment requires more than mere preparation of comprehensive hazard maps and vulnerability analysis for the country, establishment of very effective early warning systems for meteorological, geophysical, biological, social and industrial hazards; and development and maintenance of prompt emergency response mechanism and contingency plans. More importantly, appropriate structures and proper training of the required personnel on a consistent and/or continual basis must be ensured. It is only by doing this that Nigeria's environmental problems can be developed adequately in any sustainable manner.

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