

REPUBLIC OF KENYA



NATIONAL ASSESSMENT REPORT

FOR THE

**WORLD SUMMIT ON SUSTAINABLE DEVELOPMENT
(RIO+10)**

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AIDS	Acquired Immuno-deficiency Syndrome
ALRMP	Arid Land Resources Management Programme
ASAL	Arid and Semi-Arid Lands
CBO	Community Based Organizations
COMESA	Common Market for Eastern and Southern Africa
CSO	Civil Society Organization
EAC	East African Community
GDP	Gross Domestic Product
HIV	Human Immuno-deficiency Virus
IGAD	Inter-Governmental Authority on Development
MTEF	Medium Term Expenditure Framework
NACC	National Aids Control Council
NGO	Non-Governmental Organization
NPEP	National Poverty Eradication Plan
SAP	Structural Adjustment Programme
SMEs	Small and Medium Enterprises
UNDP	United Nations Development Programme
WHO	World Health Organization
WSSD	World Summit on Sustainable Development
WTO	World Trade Organization
PRSP	Poverty Reduction Strategy Paper
ODS	Ozone Depleting Substance
UNFCCC	United Nations Framework Convention on Climate Change
NEMA	National Environment Management Authority
EMCA	Environmental Management and Coordination Act
ACP	African Caribbean and Pacific
AGOA	African Growth Opportunity Act
EIA	Environmental Impact Assessment
GEF	Global Environmental Facility
GHGs	Green House Gases
GMOs	Genetically Modified Organisms
IPR	Intellectual Property Rights
KARI	Kenya Agricultural Research Institute
KEFRI	Kenya Forestry Research Institute
KMFRI	Kenya Marine and Fisheries Research Institute
KRDS	Kenya Rural Development Strategy
KWS	Kenya Wildlife Service
LATF	Local Authorities Trust Fund
NBSAP	National Biodiversity Strategy and Action Plan
NEAP	National Environment Action Plan

Foreword

It gives us great pleasure to introduce the Kenya Assessment Report on the implementation of Agenda 21. This assessment report entitled, Kenya National Assessment Report to WSSD (Rio+10), focuses on the main achievements, constraints and challenges encountered at the national level in the implementation of agenda 21.

The review shows that though significant progress has been made towards implementation of Agenda 21 there still remain some gaps, constraints and challenges that need to be addressed. Some of the key challenges include inadequate financial resources, raising levels of poverty and inadequate capacity, among others. Key national priority areas that need to be addressed among, others include; poverty eradication; meeting food security; promotion of health; provision of safe drinking water sanitation facilities; and access to energy, among others.

To accomplish these priorities there is urgent need to further develop human, institutional and managerial capacity. Further, there is need to mobilize domestic and external resources including additional official development assistance (ODA), foreign development investment (FDI), transfer of environmentally sound technologies and forging of genuine partnerships.

Preparation of this report would not have been possible without the dedication and commitment of the members of the National WSSD Secretariat, National Preparatory Committee and its thematic taskforces. The valuable support extended to the Government of Kenya by UNDP towards this end is highly appreciated.

To accomplish the above priorities there is urgent need to further develop human resources, institutional and managerial capacity, and mobilize resources.

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1.0 INTRODUCTION

The United Nations Conference on Environment and Development (UNCED) held in Rio de Janeiro, Brazil in 1992 was a landmark event. At the conference, world leaders launched a new global partnership for environment and development, which demonstrated a global consensus and political commitment at the highest level. The conference made it plain that we can no longer think of environment, economic and social development as isolated fields. It produced two international agreements, a statement of principles and a major plan of action (Agenda 21).

Agenda 21 covers the broad field of sustainable development, offers objectives, targets, strategies and activities that, if implemented, would make our world a better place to live in. It further noted the disparities between the rich and the poor, and urged nations to work together in a global partnership to achieve the objectives of the Agenda. A great deal of attention was focused on how to generate sufficient international funds to help developing countries to implement their commitments to achieve sustainable development.

Successful implementation of Agenda 21 was recognized as the responsibility of every individual. National policies, legislation, strategies, plans and processes were seen to be crucial in achieving the objectives of Agenda 21.

Realization of the objectives of Agenda 21 required the broadest participation from local, national, sub-regional, regional and international levels through active involvement of all stakeholders. These stakeholders include government, civil society, private sector and development partners and the implementation was to be done according to the different conditions, capabilities and priorities of a country.

Countries agreed to continue assessing the progress achieved in the implementation of Agenda 21. The initial review and assessment was done in 1997 in which a number of gaps were identified, particularly with regard to social equity and poverty in developing countries.

These gaps were largely attributed to falling levels of ODA, growing international debt, technology transfer and weak capacity at all levels to implement programmes aimed at achieving sustainable development. Other issues identified included institutional coordination and the need to reduce excessive levels of production and consumption, especially in developed countries. The review, therefore called for, among others, ratification, reinforcement and stronger implementation of the growing number of international and regional agreements in order to address these concerns.

1.1 Preparatory Process for Rio+10

The United Nations General Assembly, in its resolution 55/199 of 20th December, 2000 called for a summit of world leaders to undertake a ten-year review of progress made on the implementation of Agenda 21 and to reinvigorate the global commitment to sustainable development.

Prior to the summit, countries were required to undertake comprehensive reviews and assessments of progress achieved, constraints and challenges encountered in the implementation of Agenda 21 and other outcomes of UNCED.

1.2 National Preparatory Process

Kenya participated in the Rio conference, committed herself to the provisions of Agenda 21 and the related multilateral agreements. Consequently, the country has been implementing Agenda 21 for the last 10 years. In doing so, Kenya has made considerable achievements towards realizing the objectives of Agenda 21 and has also participated in many post-Rio global conferences. Kenya is signatory to conventions, treaties and agreements covering environment, trade, social dimensions, the human settlements and HIV/AIDS, among others. At the national level, Kenya has established and strengthened policy as well as legal and institutional arrangements aimed at the implementation of her environment and development action plans.

Kenya, like other United Nations member States, has undertaken a national review to assess progress made since 1992. The review, together with other consultative processes, has generated this report, which besides identifying achievements made, has also identified the constraints and challenges. The process has been held in a broad, participatory and consultative manner at all levels. In this connection, the following committees were constituted:

- a. National Preparatory Committee to facilitate national preparations for the 2002 Summit. Members to this committee were drawn from key Government institutions, local authorities, Non-Governmental Organizations, the media and the major groups;
- b. a small interministerial secretariat (Rio+10 National Secretariat), in the National Environment Secretariat, Ministry of Environment and Natural Resources, to coordinate general administrative matters related to the preparatory process; and,
- c. multi-stakeholder thematic taskforces to review and assess the progress made in the implementation of Agenda 21 in the various thematic areas.

1.3 National Framework for Sustainable Development

After Rio, Kenya embarked on translating Agenda 21 into a national development agenda. A National Environment Action Plan (NEAP) was developed with a view to enhancing integration of environmental concerns into the national planning and development process. This led to the formulation and adoption of the Environment and Development Policy. Various sectoral plans and strategies aimed at implementing Agenda 21 and other related outcomes of UNCED have also been developed within the broad framework of sustainable development.

Legislative reforms have been undertaken and a framework law on Environmental Management and Coordination enacted. Institutional reforms have also been undertaken to facilitate implementation of the policies.

2.0 SOCIAL AND ECONOMIC DIMENSIONS

2.1 Combating Poverty

2.1.1. Economic Growth, Poverty and Environment

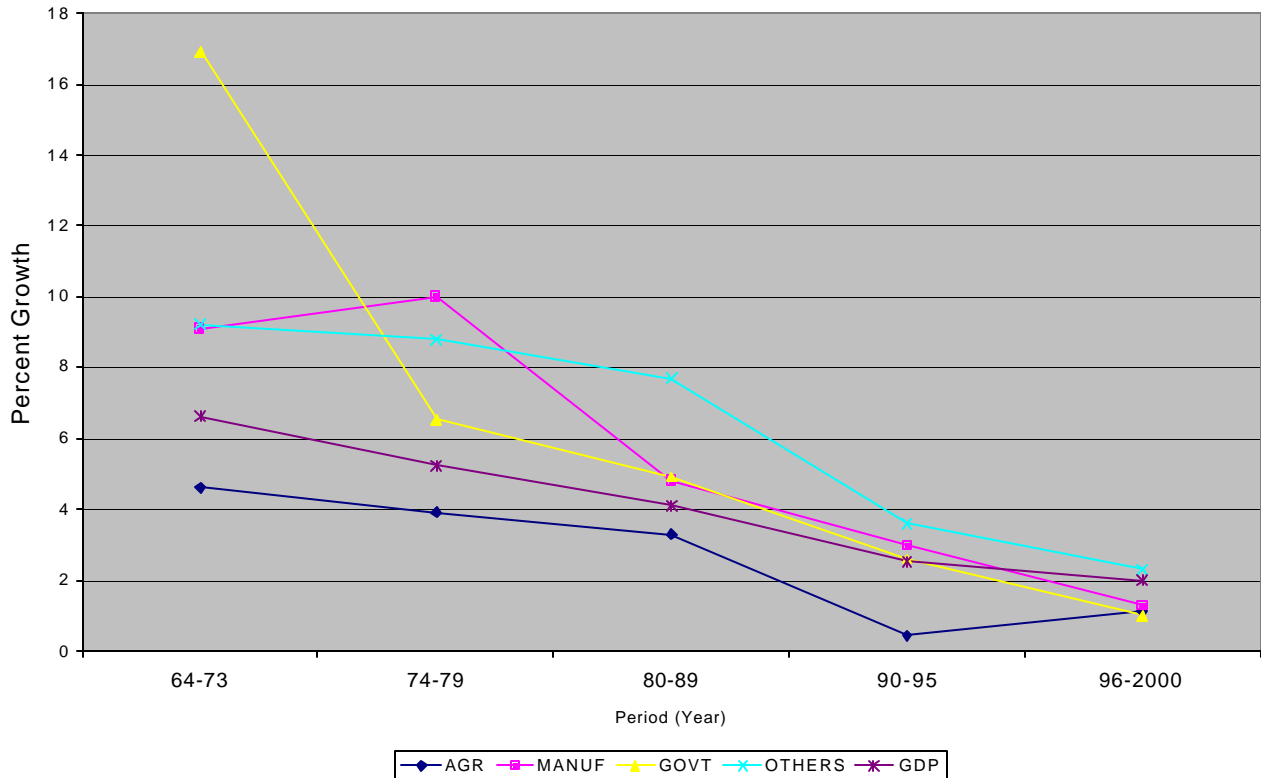
Kenya has witnessed mixed economic performance since independence. The first decade saw Gross Domestic Product (GDP) grow by an average of 6.5 per cent per year. This commendable growth was made possible largely by the transfer of land from large-scale use to small scale use, favourable weather conditions, industrial development through import substitution strategy and generous inflow of external resources.

The factors underlying Kenya's good performance of the first decade after independence were no longer sustainable by the beginning of the second decade. The challenges included steep rise in the prices of oil and other imports, droughts, decline in the flow of external funds, rapid population growth and contraction of the market for Kenyan goods. Consequently growth rates of GDP dropped to only 3.1% and later to negative growth in the late 1990s. These challenges reflected to some degree, the deteriorated life-styles and standards of living for majority of Kenyans.

The government realized the need to revive the economy and formulated the Economic Management for Renewed Growth Strategy of 1986 which emphasized the implementation of the Structural Adjustment Policies (SAPs), including price and import decontrols, privatization of public services, removal of Government subsidies and cost-sharing with beneficiaries in the provision of public services. Implementation of the SAPs led to the disruption and deterioration of the provision of basic social services such as education, health and sanitation, among others, leading to increased poverty.

Figure I shows growth rates of the major sectors of the country's economy since independence. The progressive declines in the growth rates in each sector clearly shows the increase in poverty over the same years.

FIGURE 1 : AVERAGE ANNUAL GROWTH RATE ON GDP (%)



Key

- AGR = Agriculture
- MANUF = Manufacturing
- OTHERS = Other Sectors, e.g., Services
- GDP = Gross Domestic Product

2.1.2 Definition of Poverty

Poverty is often defined in absolute or relative terms and in either way, the definition is used in comparing groups. Poor people, however, do have their own definition that arises from their own perceptions of what poverty is. Communities in Kenya perceive poverty as:

- Inability by an individual or household to afford basic necessities such as food, clothing, housing, health and education for children;
- A condition in which an individual or household cannot generate income. An individual/household may be forced to sell basic possessions to pay for services;
- A condition where the individual or household has few possessions or none at all.

The overall incidence of poverty in Kenya has risen from 52% in 1982 to an estimated 56%, in the year 2000. During the same period, rural absolute poverty has increased from about 48% to about 60% (Table 1) with the rural areas and urban informal settlements being more adversely affected. In the arid and semi-arid areas, the poor account for as much as 80% of the population with women and children comprising the majority. The high prevalence is reflected in decreasing life expectancy, increasing child mortality, inaccessible health-care, water and sanitation, poor housing, unemployment, hunger and malnutrition, illiteracy and increasing prevalence of diseases.

Table 1: Rural Absolute Poverty by Province					
Province	1982 Headcount %AE*	1992 Headcount %AE	1994 Headcount %AE	1997 Headcount %AE	2000** Headcount %AE
Coast	54.55	43.50	55.63	62.10	69.32
Eastern	47.73	42.16	57.75	58.56	59.38
Central	25.69	35.89	31.93	31.59	31.79
Rift Valley	51.05	51.51	42.87	50.10	58.55
Nyanza	57.88	47.41	52.21	63.05	76.14
Western	53.79	54.81	53.83	58.75	64.12
North Eastern	-	-	58.00	-	-
Total Rural	47.89	46.33	46.75	52.93	59.93
*AE = Adult equivalent					
**=Extrapolated using 1994-1997 growth rates					
CBS : Economic Survey, 1997, Second Poverty in Kenya Report Vol. II, 2000					

Over 50% of Kenyan households do not have access to safe drinking water and only 4% of the population living in the rural areas have access to electricity. More than 47% of the urban dwellers live in informal settlements and in conditions of abject poverty characterized by, among others, unavailability of safe drinking water and sanitation facilities. This condition exposes them to high risk of contracting communicable but preventable diseases and perpetuates the poverty cycle while exacerbating environmental degradation.

Strongly concerned with the extent and severity of poverty, the Government of Kenya has formulated the Poverty Reduction Strategy Paper (PRSP) within the broad framework of Poverty Eradication Plan of 1999/2015. The PRSP focuses on alleviating abject poverty among the vulnerable groups such as the subsistence farmers, women and youth.

Since poverty and environmental degradation are intricately linked, economic growth and development must be both people-centered and environmentally sustainable. Preservation and sustainable use of natural resources are cornerstones of policies that ensure resources are available to improve the quality of life of present and future generations.

2.2 Demographic Dynamics

Kenya's total population is currently estimated to be 30.4 million people and is increasing at the rate of 2.4 per cent per annum, a substantial decline from the high growth rate of 3.8 per cent and 3.4 per cent recorded in 1979 and 1989, respectively.

The high population growth rate has been attributed to high fertility and declining mortality. Kenya's fertility peaked in 1979 when Total Fertility Rate of 8 children per woman was recorded. This decline steadily fell to 5.4 children per woman in 1993 and to 4.7 children per woman in 1998, implying that today's woman can have an average three children less in her reproductive period than in 1979. Improved educational status among women and increased use of family planning methods are the two major factors that have contributed to the fertility decline. In 1998, 39% of the currently married women were using a method of family planning methods, 32% of whom were using modern methods.

Although mortality has been on a downward trend, the trend has reversed in the last decade due to the impacts of HIV/AIDS pandemic, among other factors. The probability of dying before the fifth birthday now stands at 112 deaths per 1000 live births, an increase of 24 per cent from 1993. Maternal mortality ratio also increased to 590 deaths per 100,000 live births in 1998 from an estimated 320 deaths in 1993.

These demographic trends have given rise to a youthful population structure, with 44% of the population being below 15 years. Age 65 years and above constitute about 4 per cent of the total population.

Kenya has experienced rapid rate of urbanization with 34% of total population living in urban centres and major cities, including Nairobi, Mombasa and Kisumu in 1999. In 1989, only 18 per cent of the population was living in urban areas. This rapid growth of urban population has resulted in proliferation of urban informal settlements which lack basic infrastructure. Social strife, environmental degradation and deterioration of public health standards are a common feature in these settlements.

2.2.1 Achievements

Kenya is an active participant and signatory to the major United Nations conventions, treaties and agreements that deal with population and sustainable development issues. Notable among these include the United Nations Conference on Environment and Development (Rio 1992), the International Conference on Population and Development (Cairo 1994) and the United Nations Conference on Women and Development (Beijing 1995). Kenya has made tangible developments towards implementing recommendations emanating from Agenda 21 regarding population and sustainable development. Among these is the formulation, development and the adoption of a National Population Policy for Sustainable Development whose objectives are:

- The attainment of a balance between Kenya's population growth rate on one hand and sustained rate of economic growth for sustainable development on the other;

- The recognition of regional variations with regard to population issues and development;
- Respect for fundamental human rights and freedoms relating to social, cultural and religious beliefs and practices;
- Reaffirmation that all couples and individuals have basic rights to decide freely and responsibly the number and spacing of their children, have access to information and education in order to make informed choices and means to do so;
- Recognition of the need for advancing gender equity and equality, empowerment of women and elimination of all forms of violence.

This policy compliments the National Environment Plan of Action (NEAP) in addressing environmental conservation and management issues.

Kenya has also taken significant steps in addressing the outcomes of the Beijing Conference by developing and adopting the “Platform for Action for Improving the Welfare of Women in Kenya”. The strategic objectives for the Platform include undertaking measures to:

- Review, adopt and maintain macro-economic policies that address the needs and efforts of women in poverty eradication programmes;
- Review laws and administrative practices to ensure women’s equal rights and access to economic resources;
- Provide women with access to savings and credit mechanisms and institutions;
- Develop gender-based methodologies and conduct research to address the feminisation of poverty.
- A “National Gender and Development Policy” that aims at mainstreaming the needs and concerns of men and women in all areas of national development.

2.2.2 Constraints

Though national sustainable development strategies, including population policies, have been formulated in Kenya, much remains to be done in terms of implementation. This is due to the following constraints:

- Lack of a cross-sectoral conceptual framework based on the complex interrelationships between population, environment and sustainable development;
- Lack of suitable and accurate data; and
- Lack of financial and human resources to implement policies and programmes.

Although some progress has been made, population issues have not been fully integrated into sustainable development policy, planning and programming. In particular, sufficient attention has not been paid to the relationship between demographics, environment and poverty, especially as they relate to the most vulnerable groups, among the women and children.

Population growth, poverty and environmental degradation are most closely linked in Kenya's rural areas. A large majority of the rural poor are dependent on agriculture and natural resources for their livelihoods and sustenance. Declines in per capita arable land and water supply, together with the degradation of soils, forests, grasslands and water quality, are making life increasingly hard for the rural poor, accelerating migration to urban centres and often separating families.

Kenya has committed financial support to population and environmental concerns. However, considerable effort is still needed to mobilize the resources required to fund the integrated population, environment and sustainable development activities spelt out in Agenda 21.

2.2.3 Challenges

- Implementing of relevant policies on population and development, giving priority to poverty eradication programmes;
- Acquiring of relevant data and information on environment, population and poverty nexus;
- Developing capacity at all levels especially in empowering women;
- Raising public awareness and understanding of the nexus with a view to changing attitudes;
- Mobilizing new and additional resources.

2.3 Promoting Sustainable Human Settlements

Shelter and promotion of sustainable human settlements are essential for the achievement of sustainable development. The need to intensify efforts and cooperation to improve shelter and living conditions in both urban and rural areas is therefore, an imperative.

Over the last decade, the urban population in Kenya grew from 3.8 million in 1989 to 9.9 million in 1999 and is projected to grow to 16 million by 2005. Although urbanization has been rapid, Kenya is still largely a rural society. By 1989, about 80% of the population lived in dispersed rural settlements. These settlements have continued to receive minimal attention because the rural people have always provided their own forms of shelter using locally available materials. Some low-density rural settlements have been seen to cause little damage to the environment. Funds and skilled human resources that can be used to manage the expansive rural areas are extremely inadequate.

In general, there has been poor performance of the formal housing sector in Kenya over the last three decades due to various problems including inadequate financial resources. In this regard, over 50% of the population in urban centres lives in informal settlements.

Rural settlements have environmental problems which are influenced by many factors, including cultural traditions, climate, terrain, available natural resources, and the economy. Most rural settlements, especially in ASALs, are located near water points. Livestock too are concentrated around these settlements. Settlement activities and trampling by animals often cause serious environmental degradation. These settlements often make unsustainable demands on the woody vegetation for energy needs. As a result, the land is left bare.

In the recent past, some rural areas have received an influx of refugees whose demands have led to adverse environmental impacts. These include indiscriminate destruction of vegetation, inadequate waste management, inadequate or poor housing, and disruption of local socio-economic activities.

At the same time, the once well-planned urban centers have experienced high concentrations of population with inadequately provided and maintained physical infrastructure such as housing, social facilities, utilities and amenities. As a result of rapid urbanization, the country is currently experiencing major problems of proliferation of urban informal settlements, social strife, environmental degradation, and deteriorating public amenity services.

All these problems notwithstanding, urban centers continue to attract increasing numbers of immigrants from rural areas searching for employment opportunities and better living conditions, thereby exacerbating the deterioration of the urban environment.

2.3.1 Achievements

The Government of Kenya has undertaken policy, legislation and institutional reforms aimed at promoting sustainable human settlements. This includes the revision of the Physical Planning Act and the registration of the Physical Planners Act in 1996. These instruments provide for:

- Ensuring competence in planning rural and urban environment;
- Participatory approaches involving public/private sector/the civil society;
- Application of Environmental Impact Assessment (EIA) in development projects;
- Development of a National Land Use Policy;
- The private sector has been allowed to participate in various development activities including in waste management.

Institutional reforms include:

- Establishment of the Environmental Monitoring Unit in the Ministry of Lands and Settlement; and similar units in all major local authorities;
- Formation of an association of Local Authorities of Kenya for the furtherance of the Habitat Agenda.

- The implementation of Local Agenda 21 and the Green Towns Initiatives;
- Increased investment in the informal business sector (Jua Kali) in a bid to reduce poverty;
- There has been a positive shift towards the use of renewable sources of energy such as solar energy, hydroelectric power and other alternative sources of energy such as biomass;
- There has been a gradual shift in the provision of basic services such as water and sanitation from the government to the community based organizations (CBOs), NGOs and the private sector.

Further, the Government of Kenya has committed itself to developing a national housing policy whose major thrust is to develop a deliberate strategic plan on slum upgrading, development of urban low-cost housing, urban middle-cost housing and poverty alleviation in partnership with the private sector, development partners and civil society organizations.

2.3.2 Constraints

- The post-Rio period has seen the Government of Kenya working towards improvement and rehabilitation of infrastructure though its efforts were hindered by lack of finances;
- Local authorities have been unable to manage the increasing amounts of solid wastes;
- Lack of a comprehensive land use policy which has led to illegal extensions, unplanned buildings and allocation of public land to individuals, all of which contribute negatively to human settlements;
- Lack of properly designated sanitary landfills, leading to disposal of wastes in low income settlements;
- High interest rates on mortgages making adequate housing unattainable for most Kenyans;
- Increasing levels of poverty and unemployment;
- Weak enforcement of standards.

2.3.3 Challenges

- Management of influx of large numbers of people into urban areas and improvement of conditions in rural areas to ease pressure on existing infrastructure and land;
- Development of a holistic land use policy that will address issues such as land tenure;
- Management of the increasing levels of poverty and unemployment;
- Combating proliferation of slums and unplanned settlements;

- Management of influx of refugees;
- Strengthening enforcement of standards.

2.4 Protecting and Promoting Human Health

Sustainable development cannot be achieved without addressing the causes of ill health and their impacts on development. Many health problems are caused or exacerbated by environmental pollution, crowding, inadequate water supplies, poor sanitation and unsafe waste disposal.

There are 4,378 health facilities in Kenya, 52% are administered by the government through the Ministry of Health. Community health care services have in the past received very little attention, however, the government through the National Health Sector strategic plan, 1999-2004, has addressed this disparity. The 1998 survey on maternal health indicates an average of 3.7 ante-natal visits per pregnancy and maternal mortality ratio of 590 death's per 100,000 live deliveries.

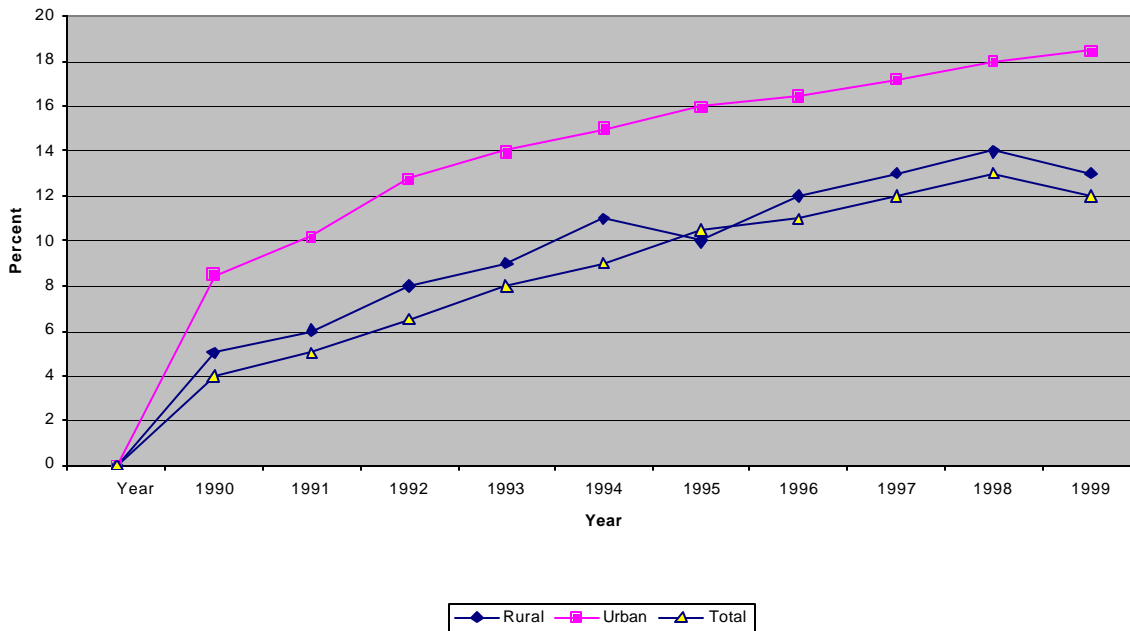
Remarkable progress in health services delivery was achieved during the first three decades after independence (1960-1992), when the Government goals in this sector focused on provision of free health care for all. The situation has changed in recent years following budgetary constraints, reduced donor support and the phenomenal rise in the demand for health care services. Between 1992 and 1998, infant mortality increased from 51 to 71 per 1,000 live births. The number of children dying before reaching their birthday increased from 74 to 105 per 1,000 live births. Crude death rates increased after 1992. Re-emergence of malaria, poor agricultural performance, which reduced food security and declining income per capita have contributed to, increased mortality.

In many areas of Kenya, malaria accounts for over 30% of all out-patient cases and the disease currently poses a high toll on morbidity and mortality in addition to being a major burden to the health sector. Peri-natal and maternal health complication account for 27% of the total burden of diseases when measured in terms of life years lost.

HIV/AIDS is wiping out the energetic and productive segment of the Kenyan population. Patients, caretakers lose time, which would have been used engaging in meaningful economic activities. In addition, those who care for the patients spend a lot of their resources that would, otherwise have been used for capital formation and investment or fending for their families.

The high and increasing prevalence of HIV/AIDS presents a major health and development challenge as the pandemic poses a threat to long-term sustainable economic development of Kenya (Figure 2). The advent of HIV/AIDS has aggravated the burden of tuberculosis (TB) in Kenya. Persons with HIV/AIDS get infected more easily with TB. Kenya is one of the 22 most highly burdened countries, which collectively account for 80 per cent of TB cases globally. In recognition of the growing problem, Kenya declared HIV/AIDS a national disaster towards the end of 1999.

FIGURE 2 : TREND OF HIV-AIDS IN KENYA



2.4.1 Achievements

- The formulation of the National Health Policy Framework and development of the National Health Strategic Plan (1999-2004);
- Establishment of the National Aids Control Council to deal with sexually transmitted infections (STIs) and HIV/AIDS pandemic;
- Involvement of wider stakeholders including the private sector, development partners and NGOs in the provision of health care services;
- Development of insecticides to reduce spread of malaria;
- Research on the control of tsetse flies jointly with our development partners;
- Establishment of the Kenya Expanded Programme on Immunization (KEPI).

2.4.2 Constraints

- Inadequate qualified human resources;
- Inadequate financing for the health sector;
- Inaccessibility and unaffordability of basic drugs to most people;
- Low doctor-patient ratio;

- Diseases such as tuberculosis (TB) have been complicated by HIV/AIDS infection. Malaria infection has increased and causing strains of plasmodia becoming drug resistant;
- Increased poverty and lack of employment;
- Poor operation and maintenance of health facilities;
- Lack of a safety net in the health sector for the poor and vulnerable groups.

2.4.3 Challenges

- Management of HIV/AIDS pandemic;
- Raising investment in the health sector;
- Dealing with drug resistant pathogens;
- High rate of brain drain;
- Alleviating the high incidence of poverty;
- Abating increasing environmental pollution.

To address these challenges, Kenya will endeavor to establish a national social protection and security mechanism for the poor and most vulnerable. The Government has plans to expand the accessibility of primary health care to all irrespective of income, age, sex and social status. It needs support to expand access to health care and support for people infected and affected by HIV/AIDS and to strengthen response capacity and coordination at all levels.

2.5 Management of Solid Wastes

Unsustainable patterns of production and consumption are increasingly generating large quantities and a variety of wastes at unprecedented rates. High population increase and urbanization has led to high consumption of natural resources and generation of substantial wastes. Most local authorities have been unable to cope with collection, treatment and disposal of wastes due to inadequate capacity and financial constraints. Nairobi City, for example, produces over 1,000 tonnes per day of solid wastes and only 20% of the waste is collected and taken to approved dumpsites. Sewage and solid waste disposal systems have seriously deteriorated and remedial measures are urgently required, bearing in mind that waste management has serious implications on public health and welfare. The proper management of solid and liquid wastes will therefore, be important in promoting the country's economic growth including industrial development and increased urbanization.

2.5.1 Achievements

- Policy, legal and institutional reforms have been undertaken in this sector;
- Establishment of a National Cleaner Production Centre;

- Sensitization of the industry on the need to minimize and recycle wastes;
- Enhanced private sector participation in waste management; and
- Implementation of the Local Agenda 21 programme and the Green Towns Initiative by local authorities.

2.5.2 Constraints

- Weak institutional coordination;
- Ineffective enforcement of laws;
- Limited human and institutional capacities to manage wastes;
- Inadequate corporate responsibility;
- Inadequate financial and technical resources; and
- Lack of a national land use policy in relation to land zoning to provide for sanitary landfills.

2.5.3 Challenges

- Adopting sustainable consumption and production patterns/practices;
- Management of environmentally persistent and non-biodegradable wastes such as polythene paper bags;
- Effective enforcement of existing laws;
- Acquisition of appropriate technologies; and
- Forging effective partnerships in the management of wastes.

2.6 Management of Toxic Chemicals, Hazardous and Radioactive Wastes and Environmentally Sound Management of Radioactive Wastes

Use of chemicals is essential to meeting the social and economic goals of the global community and today's best practices demonstrates that they can be used widely in a cost effective manner and with a high degree of safety. However, a great deal remains to be done to ensure the environmentally sound management of toxic chemicals, within the principles of sustainable development and improved quality of life for humankind.

Misuse of chemicals has now become a world concern because of negative environmental and health impacts leading to global agreements and programmes on chemical management. Some of the key agreements include the Basel Convention on the Trans-boundary Movement of Hazardous Chemicals and their disposal. The Rotterdam Convention on the Prior Informed Consent Procedure on Pesticides and Industrial Chemicals in International Trade; and the Stockholm Convention on Persistent Organic Pollutants, among others.

2.6.1 Achievements

The Government of Kenya has taken steps to address the environmental problems associated with toxic chemicals wastes and radioactive materials through formulation of policies, laws, action plans and creation of appropriate institutions. Through such policies the government is promoting the reduction, reuse, recycling and production of more durable products as a way of promoting options that are environmental friendly for waste management.

Kenya is signatory to all these international conventions and will remain committed to their implementation and has also ratified the key conventions and protocols related to the environment and chemical wastes management. These include:

- The Vienna Convention on the Protection of the Ozone Layer;
- The Montreal protocol on Substances that Deplete the Ozone Layer and its London and Copenhagen Amendments;
- Basel Convention on the Trans-boundary Movement of Hazardous Chemicals and their Disposal;
- The Rotterdam Convention on the Prior Informed Consent Procedures on Chemicals and Pesticides in International Trade;
- The Stockholm Convention on the Persistent Organic Pollutants;
- Establishment of an environmental standards committee that is currently in the process of preparing environmental standards.

Kenya has no nuclear reactors. However, radioactive substances are used in the medical field, research and some industries such as in the manufacture of cigarettes, rubber tyres, steel pipes, as well as in road testing and oil exploration, among others.

The following measures have been taken to address issues related to the management of radioactive wastes:

- Formulation of the National Health Policy in relation to radioactive wastes and has also strengthening the Radiation Protection Board's mandate to allow, among others, participation of the private sector;
- Enhanced the decision-making process of the Mines and Geology Department and Materials Branch to monitor radicalization of both man-made and natural radioactive wastes;
- Keeping of comprehensive inventories of users and handlers of radioactive materials.

Kenya is also phasing out the use of banned chemicals such as methyl bromide, dieldrin and aldrin and restricting use of DDT.

2.6.2 Challenges

- Capacity building for the management for toxic chemicals and radioactive substances;
- Acquisition of alternatives to banned and/or restricted chemicals;
- Building adequate institutional and human capacity to deal with management of toxic chemicals, hazardous and radioactive substances;
- Creation of public awareness and knowledge on the dangers of toxic chemicals and hazardous wastes.

2.6.3 Constraints

- Inadequate capacity to manage toxic chemicals, radioactive substances and their wastes;
- Inappropriate technology transfer for toxic and radioactive wastes management.

3.0 CONSERVATION AND MANAGEMENT OF NATURAL RESOURCE BASE FOR DEVELOPMENT

Managing the natural resource base in a sustainable and integrated approach is essential for achieving sustainable development. In this regard, it is necessary to implement strategies aimed at protecting all types of ecosystems and to achieve integrated management of environmental resources while strengthening regional, national and local capacities through capacity building and provision of requisite resources.

3.1 Freshwater Resources

Water plays a central role in food production, public health, industrial power production, recreation and poverty alleviation. Kenya is a water-scarce country with annual surface water potential estimated at only 19,590 million cubic meters and groundwater potential estimated at 619 million cubic meters. Over 80% of Kenya is arid and semi-arid and hence, available freshwater resources are unevenly distributed in space and time. With the increasing growth in national population and the subsequent socio-economic dynamics such as urbanisation, industrial production, tourism and agricultural activities demand for water continues to rise. Current estimates indicate that only about 60% and 34% of the country's urban and rural populations, respectively, have access to safe drinking water.

3.1.1 Achievements

During the International Drinking Water Supply and Sanitation decade, 1980s, the Government of Kenya invested heavily in the water sector, with the goal of providing potable water at close proximity to every Kenyan by the year 2000. The achievement of this goal was however, hampered by various militating factors including the uneven distribution of the national freshwater resources, occurrence of extreme weather, impacts of accelerated variability, water catchment degradation, rapid population growth, inadequate funds and escalated service delivery costs. The following are achievements in the water sector:

- Approximately, 60% of the urban population has access to sustainable, piped and safe drinking water supply;
- Almost 34% of the rural population have access to potable water from various schemes including direct tapping from water courses, piped systems, rain-water harvesting constructed shallow wells, dams, pans and boreholes;
- About 29% of urban population has been served with water-borne sewerage, the rest depend on on-site sanitation including septic tanks and pit-latrines. Rural areas are dependent on mainly pit latrines.

Kenya has, through wide public participation, undertaken water sector reforms on policy, legislation and institutional arrangements. These reforms are intended to bring about decentralization of decision-making and to promote stakeholder participation in the management of the national water resources as called for in the Agenda 21. Specifically Kenya has:

- Formulated and is implementing the national policy on Water Resources Management and Development whose objectives are to:
 - (i) Preserve, conserve, protect available water resources and allocate in a sustainable manner;
 - (ii) Supply water of good quality and in sufficient quantity to meet the various water needs while ensuring safe disposal of waste water and environmental protection;
 - (iii) Establish an efficient institutional framework to achieve systematic development and management in the water sector;
 - (iv) Develop sound, sustainable financing mechanism for effective water resource management, water supply and sanitation development.
- Revised the Water Act in order to accommodate the current resource management principles. The Act provides legal mechanism for active community participation in the water sector and to facilitate creation of partnerships between the public and the private sectors in the management and development of water resources. It further provides guidance on the management of trans-boundary water resources;
- Formulated the integrated water resources management and supply services' strategies;
- Established training institutions for human resources development at professional and para-professional levels related to the water sector;
- Formulated other pertinent policies to guide sanitation development and conservation and management of wetlands.

Arising from the above policy and legal reforms, the role of the government is changing from that of an implementer of water projects to supervision, policy formulation and law enforcement. The local communities and the private sector will increasingly be involved in the implementation of water development projects and water resource management activities.

3.1.3 Constraints

- Decreasing levels of investment in the water sector;
- Inadequate financing of sanitation development;
- Inadequate capacity within public and private sectors to deal with emerging challenges in water resources management;
- Inadequate national land use policies;
- The low level of infrastructural development.

3.1.4 Challenges

Conservation and management of national water resources has been impeded by many challenges that include, among others:

- Meeting the rising demand for water;
- Mitigating the impacts of extreme weather events and consequent damage to water supply infrastructure;
- Abatement of water catchment degradation;
- Rehabilitation of degraded water catchment areas;
- Raising levels of investment in the water sector;
- Raising the level of sanitation development;
- Promotion and enhancement of water quality.

3.2 Coastal and Marine Resources

The coastal and marine environment of Kenya is rich in resources. Different tropical marine and wetland habitats occur within the coast including coral reefs, seagrass meadows, mangroves, estuaries and salt marshes. A fringing reef system spans the length of the coast from the Kenya/Tanzania border in the south to Malindi Bay in the north, with scattered fringing reefs northwards to Somalia. There are 9 mangrove species along the coast covering a total area of approximately 53,000 ha with largest stands occurring in the Lamu area and Vanga-Funzi coastal system in the south. Submerged sea-grass beds provide links in the lagoons between the mangroves and coral systems.

The resources of the coastal and marine environment contribute significantly to the overall national economy and the well being of coastal communities. The resources form the basis for the tourism industry, a significant contributor to the national economy. Fisheries and mangroves are important sources of livelihood for coastal communities. Additionally, many ocean-related activities like salt mining provide vital employment to thousands. The importance of shipping and port activities to the national economy cannot be over-emphasized. The port of Mombasa annually handles over 9 million metric tonnes of goods per year linking the country with Eastern and Central African countries and the rest of the world.

Despite their immense contributions, the country's coastal and marine resources experience varying degrees of degradation and resource-use conflicts arising from inadequate planning and rapid population growth. Immigration to coastal urban centres continues to increase with ocean-dependant economic opportunities. Even with the recent decline in tourism nation-wide, coastal tourism has remained fairly stable. Several land-based activities produce varying degrees of impacts into the

marine ecosystems increasing pollution and sediment loads. Coastal vegetation including mangrove forests is being cut and reclaimed for alternative use, while overexploitation of resources for short-term gains is on the increase. As a result, water quality has declined, shorelines have experienced marked erosion and coastal systems have been degraded.

3.2.1 Achievements

The Government of Kenya has taken measures aimed at bringing about shift towards integration and sustainable coastal development through the formulation and adoption of overarching national environmental conservation policies. In particular significant progress has been achieved in promoting integrated approaches in coastal management both at the national and regional levels.

- Ratified the United Nations Convention on the Law of Sea (UNCLOS) and the International Maritime Organisation (IMO) Conventions relating to safety and protection of the marine environment from shipping-related activities.
- Establishment of the National Oil Spill Response Committee comprising of oil industry and government agencies has been established to address oil pollution emergencies.
- Development of a national oil spill contingency plan;
- Enactment of the Coast Development Act of 1990 that provided for the establishment of the Coast Development Authority (CDA) with the mandate to plan and coordinate the implementation of development projects within the Coast Province and the Exclusive Economic Zone (EEZ).

The establishment of the Kenya Marine Fisheries Research Institute (KEMFRI), which specializes in research on marine resources and:

- Establishment of marine parks and reserves for the protection of endangered coastal and marine resources;
- Establishment of the Maritime Zones Act (1991) to provide for the establishment and delimitation of the EEZ of Kenya and for the exploration and exploitation, and conservation and management of the resources of the maritime zones;
- Enactment of the Environmental Management and Coordination Act (1999) which provides for the overall management of Kenya's environment including coastal and marine environment.
- Collaboration with the governments of the Western Indian Ocean region in the implementation of the requirements of the Nairobi Convention for the protection, management and development of the marine and coastal environment of the Eastern Africa region.

Further, Kenya has adopted the goals of the Global Programme of Action for Protection of Marine Environment from Land based sources of pollution (GPA) whose goal is to develop an action plan for the protection of the marine environment from land based activities. Kenya has also undertaken several steps towards its implementation.

3.3 Marine Fisheries Resources

The fisheries sector in Kenya contributes about 10% to the national GDP. It is a source of employment, recreation, tourism and foreign exchange earnings. Although marine fisheries in Kenya are not particularly productive compared to the freshwater fisheries, many people depend on the ocean for food security, employment and socio-economic stability.

3.3.1 Achievements

In the last decade the government has adopted several measures to improve the management and legislative framework for the sustainable use and conservation of the fisheries resources, viz:

- The government banned the use of many destructive fishing practices blamed for environmental degradation in the past. These practices include beach seining, ring nets, purse seining in the territorial waters, use of monofilament nets, and use of spear guns and harpoons. All these practices have caused over exploitation of the fisheries resources leading to vicious cycle of environmental destruction;
- Establishment of policy and regulations for fish inspection, certification and documentation of all fish exports;
- The establishment of the Kenya Fish Processors and Exporters Association, which has developed a voluntary Code of Good Manufacturing Practice for Handling Fish and Fishery Products;
- Adoption of the FAO's Code of Conduct for Responsible Fisheries (CCRF);
- Adoption of a strong participatory approach to fisheries management that involves community groups, among others, in the development and implementation of fisheries regulations;

3.3.2 Constraints

- Weak coordination of ICAM activities;
- Inadequate knowledge of ocean processes and resources;
- Inadequate capacity to deal with issues related to conservation and management of coastal and marine resources;
- Inadequate financial resources;
- Lack of operational capacity to deal with oil spills and other disasters in territorial waters and the 200-mile EEZ.

3.3.3 Challenges

- Delimitation of Exclusive Economic Zone;
- Monitoring of activities in the territorial and Exclusive Economic Zone;
- Management of land-based sources of marine pollution;
- Adverse impacts of unpredictable extreme weather events, especially on the coral reefs.

3.4 Promoting Sustainable Agriculture and Rural Development

The capacity of available resources and technologies to satisfy the demands of the growing world population for food and other agricultural commodities remain uncertain. Agriculture has to meet this challenge, mainly by increasing production on land already in use and avoiding further encroachment on land that is only marginally suitable for cultivation.

In Kenya, agriculture remains the mainstay of the economy. The main policy goals of the sector are to provide food security, raw materials for agro-industry, employment for the rising population and to generate foreign exchange earnings. The following indicators show the dominance of the sector: (i) contribution of 24.0% of GDP (year 2000), (ii) generation of over 60% of foreign exchange earnings, (iii) provision of employment to over 70% of the population, (iv) provision of raw materials to agro-industries which account for about 70% of all industries and (v) provision of over 45% of the annual Government budget.

Out of the total land area of 57.6 million hectares, only 9.4 million hectares is high to medium potential land accounting for about 16% of the total land area. The arid and semi-arid lands (ASALS) cover over 48.0 million hectares, accounting for 84% of the total land area. Of the 9.4 million hectares of HMPL, 1.1 million ha is covered by game parks, 2.8 million hectares is cropland, 2.8 million hectares is for grazing (mostly dairy), about 2.0 million is forested and 0.5 million hectares is covered by urban centres, homesteads and other infrastructure.

3.4.1 Achievements

The Government of Kenya has initiated and undertaken policy, legal and institutional reforms in Agriculture and Rural Development (1992-2001) aimed at providing for wider stakeholder participation in development programmes and to increase efficiency in production, marketing and improvement of income to the producers among these are:

- Improved capacity in the use of geographical information systems (GIS) for production, maintenance and distribution of accurate geographical data;
- Formulation of a policy for the Arid and Semi-arid Lands;
- Development of a National Action Plan for the Arid and Semi-arid Lands;

- Formulation and adoption of the Rural Development Strategy whose main objective is to provide a framework for achieving equitable growth and rural development which will guarantee sustainable livelihoods;
- Formulation of a National Food Policy;
- Development and implementation of a participatory National Agricultural and Livestock Extension Programme (1999) which includes environmental management as one of its principle objectives;
- Implementation of the National Soil and Water Conservation Programme (1974-1995), which has been addressing soil, and water conservation issues in all agro-ecosystems, including the ASALs, with special focus on water catchment areas and steep agricultural landscapes prone to degradation/erosion;
- Implementation of a National Programme on Agro-forestry;
- Establishment of Integrated Water Resources Assessment Programme (1995-1998) to plan and implement water development programmes in the country;
- Establishment of strategic food reserves;
- Strengthening of Kenya Agricultural Research Programme with components on technology development for drylands, research in water resource management and soil conservation, crops and livestock, pasture and rangeland management, farming systems and socio-economic issues;

3.4.2 Constraints

- High incidences of poverty that has led to unsustainable exploitation of natural resources such as land, water and forests;
- Lack of a National Land Use Policy to further guide implementation of sustainable development;
- Highly centralized approaches to development planning and programme implementation;
- Lack of capacity at local level;
- Inadequate financial resources to fund programmes aimed at transformation, away from unsustainable development to sustainable development;
- Deteriorating terms of trade between agricultural exports and imports;
- Shortage of arable land in the high potential areas due to inappropriate land use practices and rapid population growth;
- High costs of inputs;

- Declining public investment in agriculture.

3.4.3 Challenges

- Maintaining and improving the capacity of high potential agricultural lands to support the expanding population:
- Jump-starting the economic growth;
- Reducing poverty;
- Mitigating against extreme weather events;
- Limited capacity to implement relevant policies, legislations and regulatory frameworks;
- Changing donor conditionalities on external financing;
- Unfavourable international trading regime;
- Multiple negative effects of globalization;
- HIV/AIDS pandemic.

3.5 Combating Desertification

The most obvious impact of desertification, in addition to widespread poverty, is the degradation of rangelands; decline in soil fertility and soil structure; and the degradation of irrigated cropland. Priority activities to combat desertification should focus on the implementation of preventive measures for lands that are not yet degraded or which are only slightly degraded.

In Kenya, desertification affects 80% of the land area with a population of 10 million. The affected communities suffer from widespread and acute poverty and other adverse effects of drought. For example, while 54% of Kenya's population lives below the poverty line, in the dry lands it is about 80%. The resources of the dry lands continue to be under increasing pressure due to high demand as a result of population growth and also migrations from high and medium potential areas. Dry lands are very important to the Kenyan economy. Over 70% of major wildlife species are located in the dry lands, are rich in diversity and numbers and are a significant tourist attraction. About 26% of national foreign exchange earnings come from tourism, which is mainly based on wildlife viewing. Over 50% of Kenya's livestock population is found in the dry lands and contributes immensely to the economy and food security. The dry lands have large and diverse pastoral cultures. They are rich in traditional knowledge on the use of the rangelands, their resources and coping mechanisms that are largely untapped and endangered in the face of modernization and globalisation.

3.5.1 Achievements

- Kenya signed the UN Convention to Combat Desertification in 1994 and ratified it in 1997 and prepared the National Action programme (NAP) to combat desertification in 1997;
- Formulation of an action plan for the management of arid and semi-arid lands (ASALs);
- Establishment of a National Desertification Community Trust Fund to support initiatives on combating desertification;
- Establishment of a Framework for the Management of Integrated Programme of ASALs;
- Establishment of drought mitigation mechanisms and early warning systems;
- Establishment of a NGO Coordinating Committee on Desertification in Kenya which implements various activities geared towards combating desertification, raising awareness on UNCCD, establishing partnership with the government and stakeholders to participate in the implementation of the convention, e.g., the conservation of rare vegetable species in the arid and semi-arid areas.

3.5.2 Constraints

- Lack of adequate finances;
- Resource use conflicts among local communities, both across the borders and within the borders;
- Insecurity due to cattle rustling/raids;
- Poor infrastructural development in ASALs. This has adverse impacts on marketing livestock and other range products, hence livelihoods;
- Lack of land use policy;
- Creation of awareness;
- Lack of capacity at all levels, particularly of the local communities in management skills to manage local programme/projects.

3.5.3 Challenges

- Acquisition and adoption of appropriate technologies;

- Provision of adequate funding;
- Management of population pressure;
- Management of influx of refugees;
- Management of stock units.

3.6 Conservation of Biological Diversity

Despite mounting efforts since Rio, the loss of the world's biodiversity, mainly through habitat destruction, over harvesting, pollution and introduction of alien invasive species has continued. Biological resources constitute a capital asset with great potential for yielding sustainable benefits.

Kenya has a rich of biodiversity with over 35,000 identified species of animals, plants and micro-organisms. Over time, however, the country has been losing some of this through over-exploitation, conversion of various ecosystems into other land uses. The problem is further compounded by limited functioning mechanisms for monitoring and regulating the introduction into the country of alien invasive species.

3.6.1 Achievements

- Ratified the Convention on Biological Diversity (CBD);
- A comprehensive National Environment Action Plan (NEAP); the plan provided for broad participation and coordination of all institutions involved in conservation and management of biological resources.
- The Environmental Management and Coordination Act (EMCA) has further provided the legal basis for the implementation of the plan;
- Prepared a National Biodiversity Strategy and Action Plan (NBSAP). The Plan sets out the strategies and actions necessary for achieving conservation of biological diversity and sustainable utilization, including equitable benefit sharing, intellectual property rights (IPR) and indigenous knowledge, among others.
- Review and harmonization of other sectoral policies, laws and regulations in order to effectively address issues related to the conservation and sustainable use of biological resources;
- Built capacity and enhanced biodiversity conservation and management at all levels at community level.

3.6.2 Constraints

- Lack of adequate financial resources;

- Inadequate human and institutional capacity;
- Lack of appreciation of the value of biodiversity;
- Inadequate data and information for decision making;

3.6.3 Challenges

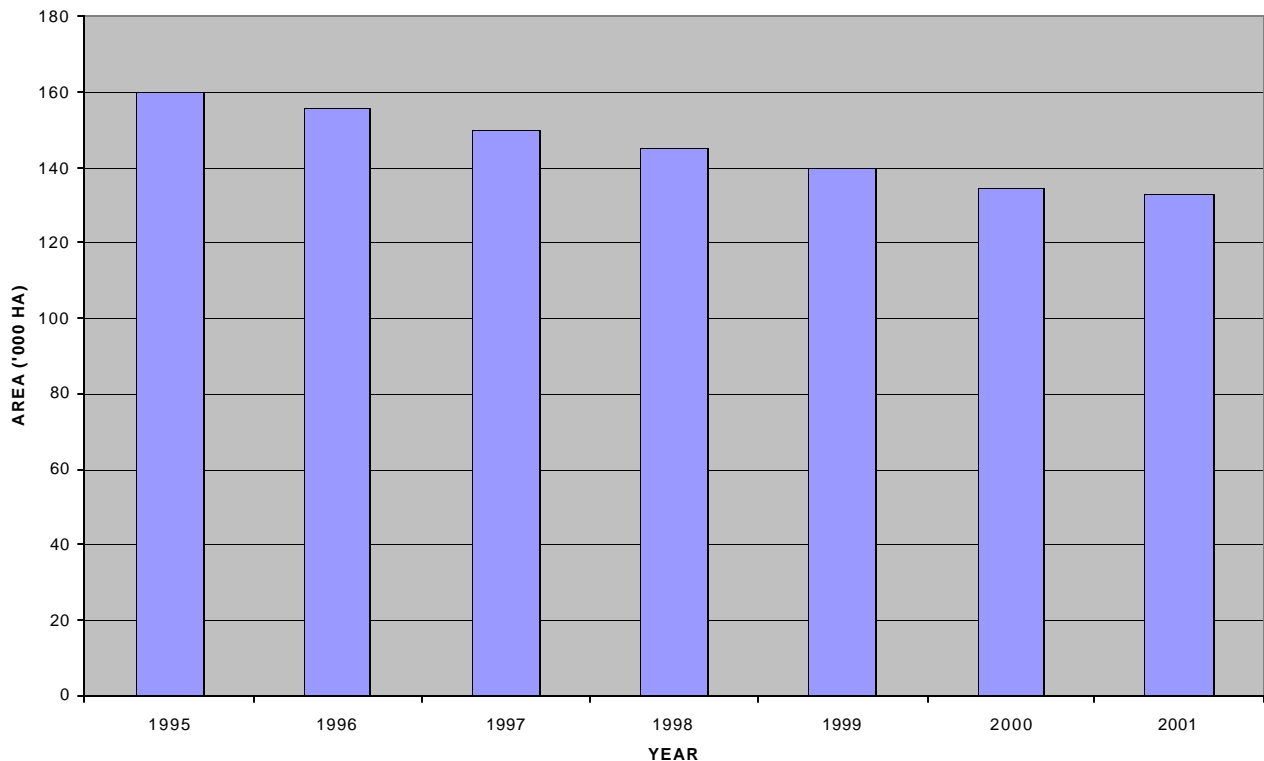
- Alleviation of widespread poverty;
- Management of the rapid population increase;
- Mobilization of adequate resources for effective implementation of Biodiversity Strategy and Action Plan;
- Recognition of indigenous value of biological resources;
- Collection and collation, analysis and storage of data, information and knowledge;
- Ensuring fair and equitable sharing of benefits accruing from use of biological resources and its components

3.7 Combating Deforestation

Kenya's forests constitute an important sector of the national economy in terms of market and non-market values. The protected forest estates constitute about 2.5 % of the total land surface area. They are concentrated in areas where competing land uses are reducing the forest cover. Other forests, which fall under the trust land and common community resources are being degraded at a fast rate. There is however, a shift towards rehabilitation and increase of forest coverage as well as sustainable management of forest resources.

Forests have come under intense pressure due to rapid population increase, widespread poverty, over-dependence on biomass, among other factors. This has led to excision and widespread degradation of forest reserves and reduction in the area under forest plantation (Figure 3).

FIGURE 3 : FOREST PLANTATION AREA IN KENYA



3.7.1 Achievements

- In recognition of the importance of the forests and in view of the increased threat through human activities, the Government of Kenya has undertaken reforms that include review and harmonization of policies and legislation, involvement of stakeholders in forest management, promotion of utilization of non-wood products, encouragement of agro-forestry and development of woodlots as supplementary efforts to reduce pressure on protected forestry areas. Other measures taken include:
- Enhance capacity at various levels in forestry management;
- Enhanced cooperation at the sub-regional level on conservation and management of forests and mountain ecosystems.

3.7.2 Constraints

- Inadequate funds;
- Inadequate human and institutional capacity;
- Lack of appreciation of the value of forests;

- Inadequate data and information on forest resources;
- Uncontrolled logging, grazing and forest fires;
- Excisions and increased demand for fuel.

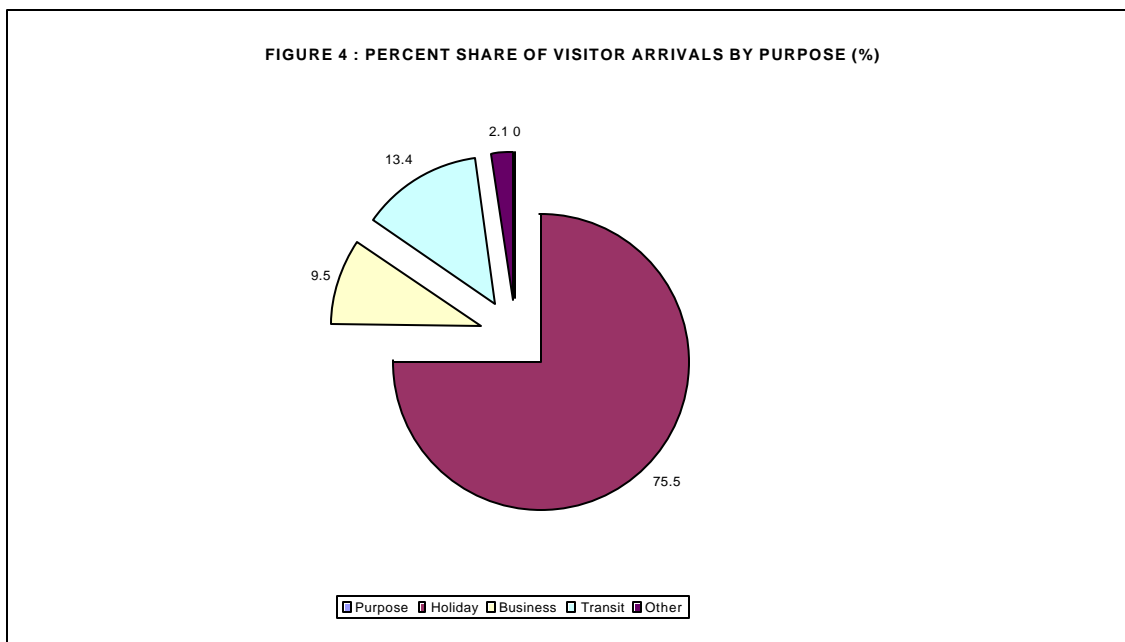
3.7.3 Challenges

- Valuation of forest resources to determine their total value;
- Controlling over-exploitation of forest resources;
- Controlling encroachment of forest into other land uses.

3.8 Sustainable Tourism

Promotion of sustainable tourism through capacity building, can significantly contribute to the lifting of the standards of life for rural local communities. Most of the visitors come to Kenya as tourists for holidays (Figure 4).

The tourism industry contributes significantly to the economic development of Kenya. It ranks second after agriculture in foreign exchange earnings and in provision of employment.



3.8.1 Achievements

Kenya has established various tourist attractions including national parks, game reserves, sanctuaries and cultural sites. Kenya is, therefore, making every effort, to conserve natural and cultural resources that are the base for sustainable tourism. This is being done through adoption of appropriate national plans, legal and policy frameworks. Kenya has also adopted eco-tourism as a way forward to ensure environmental and social-cultural integrity as well as economic equity. Other measures include diversification of tourism products and market segments, promotion of foreign and domestic tourism; and the provision of high standards of service standards for tourists.

Given the importance of this sector to the national economy, Kenya has further undertaken various policy, legal and institutional reforms including:

- Formulation of a national tourism policy;
- Revision of the Wildlife Act;
- Establishment of the Kenya Wildlife Service as the leading agency in wildlife conservation and promotion of eco-tourism;
- The private sector and group ranches, which play a vital role in poverty reduction within the communities have been encouraged to promote wildlife conservation;
- Establishment of a professional tourism training centre for the African Region;
- The comprehensive development of infrastructure to support tourism;
- Kenya has developed aggressive marketing strategies for tourism and has established the necessary institutional mechanism for the implementation of this strategy.

3.8.2 Challenges

- Dealing with the increasing regional and global competition for tourism;
- Management of the rapid population increase;
- Management of traffic to tourist sites to maintain the carrying capacity;
- Ensuring equitable distribution of benefits accruing from tourism.

3.9 Protection of the Atmosphere

Air quality is an essential requirement in the socio-economic well being of a population. However, studies conducted in Kenya's urban areas indicate high presence of oxides of sulphur and nitrogen, carbon monoxide, hydrogen sulphide and other gaseous pollutants and particulate matter. In most cases, disease patterns related to air, water and food quality. For example in Kenya, acute respiratory infections account for almost half of the hospital visits and 22% of medical cases.

Vehicular emissions remain some of the most potent sources of pollution, as urban centres grow and as the economy becomes more complex requiring more transport. The transport sector accounts for 56% of fossil fuels consumed in the country. This constitutes an enormous source of pollution.

There is also the threat of climate change, climate variability and depletion of the ozone layer. These threats have direct adverse implications to human health and ecosystems. Management of these threats is vital for sustainable development.

3.9.1 Achievements

In recognition of the impacts and threats of climate change Kenya joined the rest of the global community in signing and ratifying the United Nations Framework on Climate Change (UNFCCC). Kenya has established an institutional mechanism, among them the national coordinating climate change committee whose mandate is to:

- (i) Advising the Government on implications of the commitments under the UNFCCC and other United Nations Agencies on issues related to climate change;
 - (ii) Ensure the establishment of a properly networked database on climate change impacts, response strategies and research activities;
 - (iii) Advise the Government on issues pertaining to the GEF or any other financial mechanisms;
 - (iv) Translate the objectives of the UNFCCC and related protocols into national development priorities by developing projects and programmes for international cooperation;
 - (v) Harness and coordinate available national expertise, sectoral initiatives, and resources mobilization, strengthening of human and institutional capacity, development and harmonization of multi-sectoral programmes.
- Built a critical mass of experts amongst the public, private and the civil society;
 - Development of national guidelines on activities implemented jointly under the convention and clean development mechanism;
 - Hosting the drought-monitoring centre of IGAD sub-region in Nairobi.

3.9.2 Constraints

- Inadequate capacity to address climate change and vulnerability issues including adaptation;
- Inadequate finances;
- Low level of awareness at all levels on climate change issues.

3.9.3 Challenges

- Better understanding and prediction of the various properties of the atmosphere, as well as health impacts and their interactions with social-economic factors;
- Harnessing and mobilization of resources to address impacts of climate change;
- Building an effective network for exchange and sharing of information at the national, sub-regional and international level.

3.9.4 Protection of the Ozone Layer

The ozone layer protects the earth's surface from the adverse effect of the sun's ultra violet betas (UVB) rays. Depletion of the ozone layer leads to increased UVB radiation releasing UVB rays to the earth surface causing eye cataracts, increase of melanoma, suppression of body immune systems and damage to biological systems.

Kenya has established a national ozone office that coordinates ozone protection activities, including the phasing out of ozone depleting substance.

3.9.5 Achievements

- Development and enforcement of a vehicle inspection manual (1999);
- Development of a code of practice for inspection of road vehicles (1999);
- Creation of awareness on ozone depleting substance and their impacts;
- Supply of ozone friendly equipment to some industries in Kenya;
- Creating partnership with the private sector;
- Reduced the importation of ozone depleting substances.

3.9.6 Constraints

- Inadequate resources and capacity;
- Low level of awareness of ozone depleting substances by the public;
- Inadequate alternatives to ozone depleting substances.

3.9.7 Challenges

- Identification of alternatives to ozone depleting substances;

- Collaboration with countries to phase out the ozone depleting substances;
- Improving fossil fuels to reduce the level of benzene, sulphur and lead and other pollutants;
- Improvement of fuel efficiency in transportation;
- Provision of alternative clean energies.

3.10 Energy

Energy is essential to economic and social development and improved quality of life. Much of the world's energy, however, is currently produced and consumed in ways that are not economically and environmentally sustainable. Access to affordable and reliable energy for basic and development needs is key to sustainable development.

Kenya is dependent on three forms of energy namely: wood fuel, which comprise of 70% of the total energy consumption; petroleum (21%); and electricity (9%). Alternative sources of energy such as wind, solar and biogas are used to a limited extent. The country imports all her petroleum products while electricity is locally generated except for about 5% which is imported from Uganda. Heavy dependence on wood fuel is resulting in rapid depletion of the country's forest resources while structural barriers have militated against development and usage of renewable energy sources and cleaner technologies.

3.10.1 Achievements

- The government has allowed private sector participation in electricity generation;
- Development of a rural electrification master plan;
- Adoption of energy-saving technologies.

3.10.2 Constraints

- Lack of comprehensive energy policy guidelines;
- Lack of incentives to attract the private sector investment to boost electricity supply in the country;
- High cost of alternative energy sources;
- Inadequate financing for development of the energy sector;
- High taxes and duties on equipment and appliances;
- High electric power tariffs.

3.10.3 Challenges

- Achieving increased generation of energy;
- Increasing coverage of electric energy distribution in the rural areas;
- Ensuring that adequate supplies of energy are made available in line with development needs;
- Changing from high dependency on wood-fuel to alternative energy sources;
- Full exploitation of renewable sources of energy;
- Promoting efficient utilization of available energy;
- Liberalizing the production and supply;
- Mobilizing resources;
- Setting out mutually agreed partnerships modalities.

4.0 STRENGTHENING THE ROLE OF MAJOR GROUPS

Commitment and genuine participation of all social groups, including women and the youth is critical to the implementation of Agenda 21 and achievement of the Millennium Development Goals.

The Government of Kenya recognizes that public participation and involvement of all social groups is essential for policy formulation, development of legislation and the overall sustainable development. In this regard, major groups were involved in the broad consultative processes for the formulation of several policies, strategies and action plans. For example, the National Environment Action Plan, the Environment and Development Policy, the Poverty Reduction Strategy Paper, the National Action Plan to Combat Desertification and the National Biodiversity Strategy and Action Plan.

Likewise, participation of major groups has been instrumental in the implementation of the requirements of the various multilateral agreements covering environment and development.

4.1 Children and Youth

Kenya is a signatory to various international treaties, which seek to enhance the status and role of children and youth in development. For example, the UN Convention on the Rights of Children (CRC) and the African Charter on the Rights and Welfare of the Child.

The country also recognizes the role of children and youth and has involved them in local, national and international activities such as the World Youth on Climate Change, the UNEP Youth Agenda, sports and other economic, social and cultural activities. Additionally, they have been involved in policy and legislation formulation and implementation, notably, the Children's Rights Act, which was recently enacted by Parliament.

4.1.1 Achievements

Kenya has:

- Enacted the Children's Act;
- Initiated a National Youth Development Programme;
- Intensified public awareness campaign on the rights of children;
- Established a Rapid Response Centre for Children in Distress;
- Undertaken promotion of small and medium scale enterprises for economic empowerment of the youth;
- Development of rehabilitation programmes for street children, in partnership with various non-governmental and religious organizations;

- Formulation a non-discriminatory education policy to ensure provision of education for children and youth, through formal, informal and non-formal educational programmes.

4.2 Women in Sustainable Development

In recognition of women's contribution to development, the international community has endorsed several conventions and plans of action for the full, equal and beneficial integration of women in all development activities. Governments and the international community have also endeavored to improve women's livelihoods by addressing key policy reforms in areas like water, health, nutrition and alternative energy sources.

Kenya is a signatory to various international treaties, conventions and agreements for the advancement of women. These include the Convention on the Elimination of All Forms of Discrimination Against Women (CEDAW) and the Beijing Platform for Action for the Advancement of the Status of Women in Kenya.

4.2.1 Achievements

Kenya has made remarkable progress in mainstreaming gender in development, planning and in translating international provisions into national policies and programmes. Achievements made in this connection include:

- Formulation and implementation of the National Policy on Gender and Development;
- Implementing gender mainstreaming strategy in socio-economic development and environmental management;
- Formulating domestic violence and equality bills for the protection of women against violence and promotion of equality of opportunities for all persons;
- Promoting women self-help groups including the establishment of Maendeleo ya Wanawake Organization (MYWO);
- Intensified gender capacity building initiatives at the national and local community levels in partnership with the development partners.

4.3 Indigenous People

The indigenous people and their communities have lived in harmony with the environment and have developed, over many generations, a holistic traditional knowledge base for the sustainable management of the environment.

The constitution of Kenya provides equal opportunities to all for the political and social-economic development of all the fourty two indigenous and traditional communities. In this regard, national development programmes are implemented equally for all the community groups.

4.3.1 Achievements

In recognition of the value of traditional knowledge of the indigenous people Kenya has,

- Invited the participation of these groups in research and development in the area of agriculture and herbal medicine;
- Set up a database on indigenous knowledge systems;
- Invited participation of indigenous people in the management of environment and environmental resources.

4.4 Local Authorities

Local authorities have a major role to play in sustainable development as addressed by Agenda 21. They construct, operate and maintain economic and social development infrastructure and oversee planning processes through the establishment of relevant policies, regulations and institutions. Local authorities are more closer to the people and therefore, play a vital role in promoting sustainable development.

Kenya recognizes the important different roles local authorities play in the implementation of Agenda 21 and through the Local Government and the Association of Local Government Authorities has strengthened sustainable development programmes in the urban areas.

4.4.1 Achievements

Kenya has:

- Enhanced the capability of local authorities to integrate Agenda 21 action plans through inter-sectoral synergy and cooperation between local development actors;
- Initiated a local service delivery plan, Local Authority Service Delivery Action Plan (LASDAP) which provides rational procedures for individual local authorities to prioritize the use of financial resources to improve service delivery;
- Initiated a series of reforms in local authorities to promote consultation with all stakeholders in sustainable development;
- Promoted provision of information, research and technology to local authorities to implement Habitat Agenda and Agenda 21;
- Established a Local Authority Transfer Fund (LATF) to improve service delivery in the urban centres.

4.5 Workers and Trade Unions

Workers and trade unions play a major role in the achievement of sustainable development through involvement in industry, protection of the working environment and promotion of socially responsible and economic development. Through their networks and extensive membership, trade unions provide important channels for supporting concepts and practices of sustainable development.

Kenya recognizes the role of workers and their trade unions and facilitates the establishment of several workers unions and enactment of Labour and Trade Union Acts. Trade unions, civil society, non-governmental and community based organizations have been allowed to carry out activities related to sustainable development without hindrance.

4.5.1 Achievements

- Promotion of environmental education in workplaces, schools and communities;
- Economic empowerment through workers saving and credit cooperative societies;
- Strengthening of occupational safety and hygiene in work places.

4.6 Scientific and Technological Community

Scientific and technological community should contribute to decision-making processes concerning environment and development. It is important that the role of science and technology in sustainable development be understood by both decision-makers and the public. There is need, therefore, for the scientific and technological community to develop partnerships with the general public in order to achieve sustainable development through research, development and training.

Establishment of science and technology institutions in Kenya gives evidence of the priority the country attaches to the positive role of science and technology in sustainable development. The National Council for Science and Technology, Kenya National Academy of Sciences, Universities and National Research Institutions further enhance the promotion of science and technology into national development. These are further buttressed by enactment of relevant legislation to enhance their operations.

4.6.1 Achievements

- Formulation of policy for science, research and technology;
- Improved human and institutional capacity in science and technology;
- Enactment of Kenya industrial property bill;
- Enactment of a legislation on science, research and technology.

4.7 Farmers

Agriculture is a major land use activity and supports many of the developing countries' economies. Agricultural activities are basically performed by rural households, farm families, local people and communities in essentially natural ecosystems, which are vulnerable to over-exploitation and improper management. Since farmers have been the stewards of much of the natural resources, a farmer-centered approach is the key to attaining sustainable agriculture and rural development.

Agriculture is the mainstay of the Kenyan economy. As such, farmers and pastoralists play a central role in agricultural production and ensuring food security. However, agriculture faces many challenges that include rainfed production, increasing climate variability, high costs of inputs, inadequate market and institutional infrastructure, limited access to financial resources and appropriate technology. Agriculture is also affected by competing land use practices and enterprise mix, pests and diseases, poor breed and seed quality, poor extension services and other agricultural practices. Additionally, difficult local macro-economic environment, agricultural subsidies in the North and globalization have also adversely affected local agricultural production and food security.

4.7.1 Achievements

- Formulation of a Rural Development Strategy to enhance farmers' role in sustainable development;
- Formulation and implementation of a policy for the arid and semi-arid lands to enhance the role of pastoralists and agro-pastoralists in sustainable development;
- Beneficiary (farmer) participation in policy formulation and implementation;
- Formulation and implementation of a Sessional Paper on National Food Policy;
- Development and implementation of National Agriculture and Livestock Extension Policy;
- Formulation and implementation of a National Agricultural Research Programme.

4.8 Business and Industry

Business and industry plays a crucial role in the social and economic development of a country. Creating an enabling environment encourages this sector to undertake long term investments, providing employment and generation of income and wealth.

In Kenya the business and industry sector has remained constrained due to unfavourable local and international factors including the prevailing economic recession and the adverse impacts of globalization. Research has also not benefited the sector because of the weak linkage between research institutions and industry on one hand and issues regarding patenting on the other.

The sector has, however, potential for growth on the basis of the market created by international,

regional and sub-regional initiatives such as the Common Market for East and Southern Africa (COMESA), Africa Growth Opportunity Act (AGOA) and the East African Community.

4.8.1 Achievements

- Policy, legal and institutional reforms have been undertaken that enhance the participation of the industry and the business sector in sustainable development;
- Promotion of agro-based, building and construction industries;
- Setting up of export processing zones and establishment of investment promotion centre;
- Development of small and medium enterprises;
- Establishment of the Directorate of Industrial Training; and
- Substantial technical capacity in the area of standards development and quality control.

4.8.2 Constraints

- Conflicting interests and limited objectives;
- Inadequate finances;
- Inadequate capacity;
- Negative impacts of globalization.

4.8.3 Major Challenges affecting Major Groups

- Eradication of the prevailing poverty;
- Improvement of macro-economic environment;
- Mobilization of technical and financial resources;
- Management of HIV/AIDS, TB and Malaria;
- Forging effective partnerships at all levels;
- Development and retention of human capacity;
- Ensuring social and corporate responsibility;
- Value addition to primary products;

- Full exploitation of opportunities offered by globalization.

5.0 MEANS OF IMPLEMENTATION

Provision of means of implementation continues to be a major pre-requisite for the further implementation of Agenda 21 and the achievement of the Millennium Development Goals. This will require concerted efforts by countries and the international community on the basis of common but differentiated responsibilities. In the past 10 years, many developing countries and particularly in Africa, have been facing the challenge of debt burden compounded by high levels of poverty and structural weaknesses of their national economies. This has militated against the implementation Agenda 21 in many developing countries.

5.1 Finance

At the global level, there has been a decline in Official Development Assistance (ODA), as well as a declining effectiveness domestic revenue-raising efforts. This has sharply reduced support for programmes on capacity building, poverty eradication, and environmental conservation. Where commercial credit and direct investment are growing, they have continued to focus on large-scale industry and infrastructure projects. Small and medium-scale development financing, which holds the potential to create large numbers of sustainable livelihoods, is considered by commercial creditors to be too costly to provide. The result has been growing deficit in support for sustainable development and the trends reflect poorly on the global commitment to the goals of Agenda 21.

Although the performance of Kenya economy between the period 1990-1996 falls within Structural Adjustment Programmes (SAPs) regime, it can explicitly be divided into two: with 1990-1993 characterized by falling trend in major macro-economic indicators and 1994-96 a period of up-ward trend on the same. The economy has been in recession over the last four years registering a dismal negative growth rate of 0.3 per cent. Poor economic performance in the 1990s was mainly as a result of declining donor support; poor weather and infrastructure; uncertainties caused by the introduction of multi-party democracy; depressed investments; declining tourism activities; and poor performance of manufacturing sector: GDP growth declined to 2.5% between 1990 and 1995 and to 1.98% between 1996 and 2000.

The increasing debt burden-poverty link militates against any rapid economic growth and development. Kenya currently has unsustainable external debt.

Expenditure on debt servicing has outstripped expenditure on social services such as education, health, housing and community welfare, pollution abatement, water supply, sanitation and refuse collection which are relevant to sustainable development. Despite the unfavourable debt situation, Kenya has not qualified for debt relief under the Heavily Indebted Poor Countries (HIPC) initiative as she is considered to be below HIPC threshold. Among the trigger points for HIPC qualifications is the maintenance of macro-economic stability evidenced by satisfactory performance under poverty reduction growth facility, preparation of full PRSP plus one year progress report on PRSP implementation and implementation of structural reforms including reforms in health and education. To this end, Kenya has developed a poverty reduction strategy, which outlines the priorities and measures necessary for poverty reduction and economic growth.

The Official Development Assistance (ODA) to Kenya since 1992 has been unfavourable. In 1991 the IMF and World Bank reduced balance of payment support to Kenya. Aid was further suspended

in 1998. The ODA decreased from US\$ 50 per capita in 1990 to US\$ 16 per capita in 1998, recording a 68 per cent decrease. Consequently creation of the necessary conducive environment for increased inflows of Foreign Development Investment (FDI) has been adversely affected. Nevertheless, Kenya has to some extent benefited from various bilateral and multilateral funds including Trust Funds. Most of the trust funds are meant for financing programmes of various global conventions on biodiversity, climate change, ozone layer depletion, persistent organic pollutants (POPs), CITIES, and Regional Seas Programmes. Global Trust Funds include the Global Environment Facility (GEF), multilateral fund of the Montreal Protocol for the protection of the ozone layer, and technical cooperation trust funds.

5.1.2 Achievements

Recognizing the importance of a stable financial system for sustainable development, Kenya has formulated a Sessional Paper on Recovery and Sustainable Development to the year 2010 that is being implemented through National Development Plans. Other achievements include:

- Privatized Development Finance Institutions to instill commercial ethics in management, fund raising and lending;
- Promoted and encouraged co-operative societies to play a key role in the mobilization of domestic savings;
- Promoted micro-financing of small and medium scale enterprises;
- Formulated a fiscal strategy aimed at:
 - (i) Maximizing on foreign concessional financing;
 - (ii) Utilization of proceeds from privatization to reduce debts and finance development;
 - (iii) Attaining a balanced budget before taking grants into account.
- Adopted Medium-Term Expenditure Framework (MTEF) for expenditure planning.

5.1.3 Constraints

- Shifting of donor priorities and conditionalities;
- Steady decline in ODA and foreign development investment (FDI); and
- Negative impacts of trade liberalization and globalization.

5.1.4 Trade

A rule-based, open, non-discriminatory and equitable multilateral trading system, as well as meaningful trade liberalization, can substantially stimulate development worldwide. Currently most developing countries are marginalized by trade because they are not in a position to compete

effectively in the global market. These countries require capacity building on multilateral trading systems in order to be actively involved in designing rules governing international trade and related programs and activities. **(For further details refer to the sector on Business and Industry)**

5.1.5 Achievements

- Formulated and adopted policies and strategies for promotion and enhancement of trade;
- Established the necessary institutional framework for promotion of trade;
- Continued to develop programmes and projects with explicit trade elements;
- Diversified investment so as to stimulate economic growth and meet the needs of the population; and
- Expanded and diversified market outlets for her exports.

Kenya supports the emerging initiatives for sustainable development focusing on the continent of Africa, such as African Growth and Opportunity Act (AGOA), European Union/African Caribbean and Pacific (EU-ACP) Cotonou Agreement, East African Community (EAC) Common Market for East and Southern Africa (COMESA) and New Partnership for African Development (NEPAD).

5.1.6 Constraints

Factors that have constrained growth of trade between Kenya and the rest of world include:

- Protectionist trade policies (Tariff and non-tariff barriers) adopted by developed countries;
- Strict regulations and quality standards enforced by trading partners, especially the developed countries;
- High external debt and the inability to service it;
- Economic recession; and
- Decline in commodity prices for major exports.

5.2 Transfer of Environmentally Sound Technologies

The availability and application of improved science and appropriate technologies can greatly contribute towards the attainment of the objectives of sustainable development. However, development of science and technology and its proper application requires concerted efforts and clear commitment of both developed and developing countries. In many cases, available techniques and technologies are inadequate and solutions require to be found through technology transfer programmes. In the past, Kenya's acquisition of technology has been largely dictated by the level of research and market demand.

The next stage of Kenya's development process is rapid industrialization. Industry and manufacturing is currently contributing 15% of the national Gross Domestic Product, while services and others contribute 43%. Kenya, with ambitious plans to become a newly industrialized country by 2020, will either have to invent, adopt or buy the requisite technology to attain this status. To do this in a sustainable manner, the integration of environmental considerations at all levels of development planning and decision-making is a pre-requisite. In many cases, development projects and resource utilization activities have often ignored principles of proper environmental management. Yet, industries which have installed energy-saving or recycling technologies have often recorded economic as well as environmental gains.

A wide range of technologies and policies contributed somewhat to sustainable development and Kenya's implementation of Agenda 21. Different technologies have played an increasingly important role in moving industrial, agricultural and services delivery towards a level of sustainability. However, much remains to be done.

5.2.1 Achievements

- Formulation of science and technology policies;
- Development of legislation on science and technology;
- Creation of institutions such as the National Council for Science and Technology; Kenya Cleaner Production Centre, which is geared towards developing and dissemination of cleaner technologies; and Kenya Industrial Research Development Institute (KIRDI), among others;
- Provided incentives for adoption of environmentally sound technologies.

5.2.2 Constraints

- Inadequate financing to research and development;
- Inaccessibility to environmentally sound technologies due to issues of intellectual property rights, among others;
- Inadequate human and institutional capacity;
- Slow adoption of low cost alternatives.

5.2.3 Challenges

- Influencing policy change through research;
- Translating research findings into action;

- Ensuring acceptability of new findings;
- Ensuring timely access to environmentally sound technologies.

5.3 Education and Public Awareness

Education, raising of public awareness and training are linked to virtually all areas in Agenda 21 and even more closely, to the ones on meeting basic needs, capacity-building, data and information, science and the role of major groups.

It is, therefore, essential to mobilize the necessary resources, including financial resources at all levels, by bilateral and multilateral donors, including the World Bank and the regional development banks, by civil society and by foundations, to complement the efforts by national governments.

The level of public awareness on the linkage of the three pillars of sustainable development needs to be promoted. Most of the people are not aware of the consequences of their interaction with the natural resources and the consequent environmental problems. Most people do not understand the close ties between human activities and the environment because there is inaccurate and insufficient information. It was with this realisation that the Kenya government and other stakeholders are making efforts to increase the level of awareness of all people. Deliberate efforts have been made to incorporate messages on the environment in all levels of learning.

Kenya spends over half of its budgetary resources on the provision of basic education. She has also formulated a policy and a master plan on education.

5.3.1 Achievements

- Increased enrolment at all levels of education;
- Integration in formal and informal educational institutions;
- Increased public awareness on environmental issues;
- Development of Education Masterplan;
- Involvement of various stakeholders in the education sector;
- Trained manpower in all sectors at all levels;
- Establishment of school feeding programmes particularly for pastoralists communities.

5.3.2 Constraints

- Impacts of widespread poverty on education;

- Inadequate financial resources;
- High cost of education;
- Inadequate learning and teaching materials;
- Low teacher-pupil ratio;
- Impacts of HIV/Aids;
- Rapid population growth rate.

5.3.3 Challenges

- Coordination and regulation of stakeholders in the education sector;
- Integration of appropriate traditional and indigenous knowledge and practices in the education system;
- Influencing change of attitude to desired outcome;
- Reversing current high school dropout rate.

5.4 Capacity Building

The ability of a country to follow sustainable development paths is determined to a large extent by the capacity of its people and its institutions to make and implement decisions in the effective, efficient and sustainable manner. Systematic training and capacity building empowers people to discharge their roles more effectively and productively.

There have been substantial sector specific training activities involving both the public and private sector. Many of the specific capacity building needs towards implementing Agenda 21 have subsequently been identified in the individual national reports.

5.4.1 Achievements

- Integration of environment into the planning and development process;
- Building a critical mass of well-trained manpower;
- Creation of institutions to met capacity building needs for sustainable development;
- Development of plans and strategies for meeting capacity building needs;

5.4.2 Constraints

- lack of a policy to provide systematic training and coordination between the public and private sectors;
- ill-equipped institutions;
- inadequate financial resources;
- shortage of qualified staff.

5.4.3 Challenges

- Development of a comprehensive public training and capacity building policies that will be systematic demand driven and cost effective;
- Strengthening coordination of capacity building;
- Developing professional appraisal systems that will promote output work oriented programmes;
- Providing standardized training;
- Vertical and horizontal building of synergies in capacity building.

5.5 Information and Communication Technology (ICT)

The information age is an opportunity for developing countries to strategically position themselves to benefit from the global economy. Information and Communication Technology for decision-making has been the driving force for the current globalization process. The sector has facilitated growth in creating jobs, raising productivity, increasing incomes and opening up opportunities for increased trade.

Integrating information and communication technology in all sectors of the economy is necessary in order to ensure its access by both rural and urban communities in pursuit of sustainable development.

Most African countries, including Kenya, have been unable to effectively use ICT as a tool for enhancing livelihoods and creating new business opportunities. They lack the necessary basic infrastructure such as access to reliable energy and telecommunication upon which to adequately develop access and utilize information and communication technologies. Service and connection costs are high in Africa, averaging 20% of GDP, compared with the world's average 9% and 1% respectively for developed countries.

Despite significant progress made in the expansion and modernization of the country's information sector, substantial demands for basic services remain unmet and the disparity in the distribution of communication facilities between the rural and urban areas continues to widen.

5.5.1 Constraints

- Low levels of development of basic infrastructure to support ICT;
- Inadequate investment in ICT infrastructure;
- Inadequate local and external resources to support development of ICT;
- Inadequate public awareness; and
- Inadequate ICT training and education.

5.5.2 Challenges

- Make information and communication technology (ICT) powerful enough to create and diffuse the technologies needed to eradicate poverty;
- Management of risks associated with information and communication technology (ICT);
- Attainment of adequate information and communication technology (ICT) coverage; and
- Achieving genuine partnerships in information and communication technology (ICT) development.

6.0 NATIONAL SUSTAINABLE DEVELOPMENT PRIORITIES

Ten years after Rio, Kenya like other developing countries in Africa still faces a number of critical challenges that will need to be met before the realization of a sustainable future. Poverty, agriculture and food, infrastructure, health, energy, water and sanitation, trade and market and regional integration among others, are all familiar areas of constraint.

Development is a complex and difficult process. It is, therefore, necessary to prioritize national issues according to their urgency, impact and implementability. In this respect, there is an obvious need for greater commitment to national self-reliance coupled with a clear vision and strategic plan for Kenya in order to achieve sustainable development.

6.1 *Poverty Eradication*

Eradicating poverty and hunger; and promoting sustainable livelihoods are central to the achievement of sustainable development. The overall incidence of poverty in Kenya has risen from 52% in 1997 to an estimated 56.7% in the year 2000 with the rural areas and urban informal settlements being more adversely affected. The current widespread poverty is a major impediment to the further implementation of Agenda 21 and achievement of sustainable national development.

6.2 *Agriculture and Food Security*

Kenya has potential for agricultural production to meet food security and produce surplus for exports. To fully exploit the potential, there is need to reverse the decline in investment in agriculture and to enhance applications of science and appropriate technology in agricultural production, in particular the exploitation of the country's irrigation potential.

6.3 *Investment in infrastructure*

Infrastructure development is important for Kenya's continued socio-economic development. There is an urgent need for investment in public transport systems, roads, ports, hospitals and schools. These will require huge financial resources and hence the need for innovative financial solutions for raising adequate funds.

6.4 *Promotion of Human Health*

Sustainable development cannot be achieved without addressing the causes of ill-health and their impacts on development. Many health problems are caused or exacerbated by environmental pollution, crowding, inadequate water supplies, poor sanitation and unsafe waste disposal. Currently Kenya faces many challenges in the health sector including inadequate financing, inaccessibility and affordability of basic drugs and other health care services.

Combating HIV/AIDS, tuberculosis, malaria and other debilitating infectious diseases, as well as illegal drug use, is an important objective for the health sector. In addition, it is important to provide necessary nutritional requirements and reduce significantly the proportion of the under-nourished.

6.5 *Water and Sanitation*

Water plays a central role in food production, public health, industrial and power production, recreation and poverty alleviation. Current estimates indicate that only about 60% and 34% of the country's urban and rural populations, respectively, have access to safe drinking water.

The majority of the population in the rural and peri-urban areas has not yet been reached with reliable and easily accessible potable water supply. Sanitation development is equally very low, threatening both the health of the people and the quality of the environment. It is important to halve the proportion of people without access to safe drinking water and without access to improved and adequate sanitation by 2015.

6.6 Energy

The role of energy is crucial to achieve sustainable development goals. There is a need for access to affordable energy especially in rural areas and in sustainable industrial development. Energy is fundamental in such areas as communications, information technology and transport. New and renewable sources of energy could be utilized to a greater extent and could contribute positively to sustainable development. More generally, Kenya is endowed with energy resources but lacks the technology and financial resources to develop her full potential.

6.7 Market Access

Kenya certainly need better access to international markets for her products. This may require value adding to the primary products, better marketing strategies and increased diversification of markets.

6.8 Regional Integration and Cooperation

The promotion of regional integration and free flow of people, information, capital and goods require improvements in information and communication infrastructure.

Economic integration offers opportunities for development through expanded markets and preferential treatment provided to products from member countries. Kenya has subscribed to various regional and international conventions and blocks, which include the East African Community (EAC), Common Market for Eastern and Southern Africa (COMESA) and World Trade Organization (WTO). Specific opportunities have been opened up for the Kenyan products in the international market. These include the preferential treatment accorded Kenya and some other developing countries under the African Growth and Opportunities Act (AGOA), and the African Caribbean and Pacific (ACP) countries.

To effectively exploit these opportunities, the main challenge will be to increase efficiency and competitiveness of local products. The Government will address issues of competitiveness and international non-tariff barriers, such as those relating to quality, labour standards and intellectual property rights.

To accomplish these priorities, there is urgent need to further develop human, institutional and managerial capacity. Further, there is need to mobilize domestic and external resources, transfer of environmentally sound technologies, including additional official development assistance (ODA),

foreign development investment (FDI) and forging of genuine partnerships.

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