



THE REVOLUTIONARY GOVERNMENT OF ZANZIBAR

ZANZIBAR ENVIRONMENTAL POLICY

**THE FIRST VICE PRESIDENT'S OFFICE
DEPARTMENT OF ENVIRONMENT
P.O.BOX 2808
ZANZIBAR**

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LIST OF ACRONYMS

CBOs	Civil Based Organizations
CO ₂	Carbon Dioxide
COLE	Commission for Land and Environment
CSOs	Civil Society Organizations
DDT	D ichloro d iphenyl t richloroethane (insecticide)
EIA	Environmental Impact Assessment
EMASUD	Environmental Management for Sustainable Development Act of 1996
HIV/AIDS	Human Immuno-Deficiency Virus/Acquired Immune Deficiency
ICZM	Integrated Coastal Zone Management
LDCs	Least Developing Countries
MBCA	Menai Bay Conservation Area
MCAs	Marine Conservation Areas
MDGs	Millennium Development Goals
MIMCA	Mnemba Island Marine Conservation Area
M & E	Monitoring and Evaluation
MKUZA-	Mkakati wa Kukuza Uchumi na Kupunguza Umaskini Zanzibar
MPAs	Marine Protected Areas
NEAP	National Environmental Action Plan
NGO	Non Governmental Organization
NLUP	National Land Use Plan
PECCA	Pemba Channel Conservation Area

POPs	Persistent Organic Pollutants
PWD	People with disabilities
REDD	Reduced Emissions from Deforestation and Degradation
SEA	Strategic Environmental Assessment
URT	United Republic of Tanzania
WEEE	Waste Electrical and Electronics Equipment
ZEP	Zanzibar Environmental Policy
ZSGRP	Zanzibar Strategy for Growth and Reduction of Poverty

FOREWORD

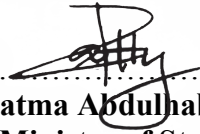
Twenty years ago, the Revolutionary Government of Zanzibar approved the first ever blue-print document which was developed to guide the country through its national and global commitments towards the protection and conservation of environment and sustainable development. The National Environmental Policy of 1992 coincided with the outcome of the first Earth Summit in Rio de Janeiro and it was largely concerned with the establishment of institutional and legal structures for environmental management, preservation of biodiversity while supporting sustainable livelihoods of the coastal communities, land use planning, rational exploitation of non-renewable natural resources, environmental awareness, and environmental impact assessment.

Since then, and despite the measured degree of success in environmental management and enforcement, emerging and new environmental challenges have continued to affect our sustainable development goals. As Islands, Zanzibar has witnessed fast economic growth and social transformation that have come at the cost of more sustained environmental pressures and degradation. Population growth, expanding tourism industry, rising energy demand, depletion of natural resources, and the impacts of climate change are some of the key challenges that we must prepare

ourselves to address effectively in order to achieve our Post-2015 sustainable development goals in the 21st Century.

The new Zanzibar Environmental Policy of 2013 has been developed to address such sustainable development challenges. This document introduces a national environmental response framework and strategies to be implemented by all key actors in the public, private, and community domains between 2013 and 2018. The policy addresses fundamental environmental issues which include Environmental and Climate Change Governance; Terrestrial and Marine Resources and Biodiversity; Forest Conservation; Renewable and Efficient Energy; Environmental Pollution; Waste management; Integrated Water Resources Management; Development of Environmental Quality Standards, Environmental and Social Impact Assessment; Environmental Information Systems and Awareness, Climate Change Adaptation and Mitigation, Sustainable Tourism; Gender, HIV/AIDS and Public Health.

The Revolutionary Government of Zanzibar remains committed and determined fully implement the new national environmental response framework in order to ensure the preservation of our biodiversity, sustainable utilization of our environmental resources and services, improved quality of livelihoods and rights for our people, and our cultural heritage.



**Hon. Fatma Abdulhabib Ferej,
Minister of State,
The First Vice President's Office
Zanzibar**

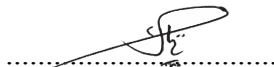
ACKNOWLEDGEMENT

The First Vice President's Office wishes to acknowledge the efforts and time spent by the staff of the Department of Environment and stakeholders at all levels who were involved in the preparation of the Zanzibar Environmental Policy of 2013. Definitely, their efforts, commitment and contribution have made possible the production of this Policy. Special gratitude and recognition is extended to the Government of Finland through SMOLE II Project for the technical and financial support in the development of this Policy.

It would not be possible to list all the individuals who were in one way or another involved in providing support, inputs and invaluable contributions in preparing this Policy. The First Vice President's Office would like to take this opportunity to thank all the Government, Private and Academic Institutions and civil society organizations for actively participated in the development of this Policy.

It is our sincere hope that this Policy will be used in providing guidance to enable Zanzibaris to effectively manage their environment with a view to achieving sound and sustainable environmental management practices towards sustainable development.

Therefore, The First Vice President's Office is urging all stakeholders to be active participants in the implementation of this Policy.

A handwritten signature in black ink, appearing to read 'Dr. Omar D. Shajak', is positioned above a horizontal dotted line.

DR. OMAR D. SHAJAK
PRINCIPAL SECRETARY,
THE FIRST VICE PRESIDENT'S OFFICE
ZANZIBAR

CHAPTER 1: BACKGROUND AND RATIONALE

1.1 BACKGROUND OF THE POLICY

Recognizing the importance of its environment, the Revolutionary Government of Zanzibar (RGoZ) launched the National Environmental Policy for Zanzibar in 1992. The policy was deliberately launched to provide policy guidance with a view to protect and improve the environment in a manner which contributes to the quality of life of both present and future generations. Furthermore, the policy was prepared to respond to the international call for the governments of the world to prepare the national environmental policy for the corresponding countries. The primary objective of the Policy was to protect and manage the country's environmental assets, such that their capacity to sustain development is unimpaired and Zanzibar rich environmental endowment is available for future generations to enjoy and use wisely. The key policy statements that were outlined in the National Environmental Policy for Zanzibar are to:

- i. Improve coordination between party, government and private institutions on utilization and protection of natural resources.
- ii. Adhere to integrated land use plans at national and local level.
- iii. Develop a programme of integrated coastal zone management.
- iv. Establish permanent programmes for monitoring the status of the environment.

- v. Develop a wide – ranging, long-term programme of research for resource utilisation and environmental protection.
- vi. Increase public knowledge about the environment management.
- vii. Strengthen conservation of Zanzibar’s biodiversity on land and in the sea.
- viii. Promote the rational use of non-living resources.
- ix. Prevent the depletion, degradation or misuse of fresh water resources.
- x. Prevent pollution of land, fresh- water, sea-water and air.
- xi. Ensure that the toxic chemicals released into Zanzibar’s environment are not of a kind or quantity to harm the environment.
- xii. Promote the development of sustainable energy supplies.
- xiii. Incorporate environmental impact assessment into procedures for the design of development projects.

Some of the major achievements made in implementing the 1992 Environmental Policy include:

- i. Zanzibar succeeded to repackage and remove all obsolete pesticides, drugs and chemicals, which were accumulated in different places of Zanzibar. The substances were brought to Zanzibar for agriculture, industry and health services. A total of 360 tons of these substances were collected and sent to the

UK for safe and final disposal through the support from the Government of Netherlands.

- ii. Establishment and management of marine and forest protected areas in Zanzibar.
- iii. Increasing in environmental awareness programs for key stakeholders and voluntary environmental conservation groups.
- iv. Incorporation of environmental issues into the school curriculum.
- v. Enactment of Environmental and natural resources related management Act and regulations.
- vi. Establishment and operationalization of environmental impact assessment procedures and guidelines.

1.2 RATIONALE OF THE POLICY

The new Zanzibar Environment Policy has been re-constituted to address the current issues affecting the country's environment. Zanzibar finds itself in the midst of emerging and adverse environmental and climate change challenges of the current times, a very different scenario from what the first environmental policy was designed for, back in 1992. Several national, regional and international development tools have been launched to guide the islands of Zanzibar to achieve sustainable development goals. These

tools include the Zanzibar Vision 2020 and the Zanzibar Strategy for Growth and Reduction of Poverty (ZSGRP), the East African Treaty of Natural Resources and Environment, and the international environmental conventions and agreements, which include the outcome of Rio + 20 for a balanced integration of the economic, social and environmental aspects towards the green economy of the world. Based on these facts, the Zanzibar Government recognizes the need for an urgent action to address these prevailing challenges in a multi pronged approach for the benefit of present and future generations.

The current environmental pressures affecting the country relate to, among others:

- i. The adverse effects of climate change;
- ii. Environmental pollution aggravated by inadequate management of solid waste and wastewater;
- iii. Increasing depletion of fresh water resources as a result of increased demand, failing monsoon rains, deforestation and destruction of water catchments and wetlands;
- iv. Increased demands for land resources and associated land degradation and pollution;
- v. Inadequate energy supply, unreliable electricity supply and sustainable alternative energy sources;

- vi. Irresponsible tourism development and practices that destroy the natural environment;
- vii. Loss of biodiversity and destruction of habitat both from terrestrial and marine environment; and
- viii. Inadequate of scientific research on environmental management and conservation.

These environmental challenges compel the Government to institute a new policy direction towards an environmental governance framework that focuses upon the Islands' terrestrial, coastal and marine settings. This new policy therefore aims to achieve the desired objectives through mainstreaming of the Principles of the Rio Declaration by adopting the strategies and objectives specific islands' ecosystems.

The new environmental policy is focusing on:

- i. Ensuring the maintenance of basic ecological processes upon which all productivity and regeneration, on land and in the sea, depend.
- ii. Promoting the sustainable and rational use of renewable and non renewable natural resources.
- iii. Preserving the terrestrial and marine biological diversity, cultural richness and natural beauty of Zanzibar's lands.

- iv. Ensuring that the quality of life of the people of Zanzibar, present and future, is not harmed by destruction, degradation or pollution of their environment and natural resources utilization.
- v. Strengthening both institutional mechanisms for protecting the environment and the capabilities of the institution involved in the environmental management.
- vi. Incorporating and bidding to the international obligations on multilateral environmental agreements and treaties that the United Republic of Tanzania (URT) has adopted or signed.

The new policy has taken into account the evolving international scenario in environmental Conventions and Protocols. Zanzibar is a part of the United Republic of Tanzania, but the environmental problems that the islands have are reminiscent of similar issues faced by other islands and Island States. Hence, the urgency to engage regional and international stakeholders and networks, participate in and promote relevant conventions, protocols and agreements and seek support in enforcing and implementation (Climate Change, Integrated Coastal Zone Management, ICZM, environmental issues and conservation of natural resources etc.).

CHAPTER 2: SITUATIONAL ANALYSIS AND MAJOR ENVIRONMENTAL CONCERNS

This section provides an analysis of the current environmental situation and outlines major environmental concerns and challenges facing Zanzibar with associated underlying causes. Unless the prevailing issues are fully understood and prioritized, the challenges that Zanzibar faces today will not be easily addressed in implementation strategies and objectives.

2.1. Environmental Governance

Environmental governance in the context of Zanzibar includes key elements of environmental policy and strategic planning; development and implementation of plans and programs at national and local levels; development and enforcement of environmental laws and regulations, norms, and standards; and establishment and operationalization of environmental institutions that supervise, execute, and monitor all aspects of the process. Furthermore, governance includes not only government responsibilities, but also private sector and civil society roles and functions, emphasizing whole system management.

2.1.1. Environmental Law and Regulations

The Environmental Management for Sustainable Development Act of Zanzibar was enacted in 1996. The Act makes ample reference to long-term conservation, management and sustainable use of natural resources by providing regulatory measures that can be enforced by the institution responsible for Environment. Currently, there are three regulations in place, which have been prepared based on the provisions of the Act. These regulations are the Environmental Impact Assessment of 2002, the Banning of Plastic Bags of 2011 and the Sustainable Utilization of Non Renewable Natural Resources of 2011. In addition there are draft regulations prepared for other important purposes, which includes Integrated Coastal Zone Management of 2011 and the Waste Electrical and Electronics Equipment (Management and Handling) of 2011. Moreover, there are a number of legislations and regulations related to environmental and natural resources management and conservation in the areas of forestry, fisheries, and land use, agriculture and water resources that are inadequately enforced. A recent study conducted by Department of Environment, indicated that almost all households interviewed are aware of the existence of the basic laws, but the majority (over 60%) of the consulted households nevertheless think that there is no restriction on the harvesting and utilization of natural resources as it is considered a general good for the public. In general, there is a

weak enforcement of regulations and legislations related to environment and natural resources in Zanzibar.

2.1.2. Institutional Set-Up and Capacity

The overall responsibilities for coordination of environmental management issues in Zanzibar are mandated to the Department of Environment. This Department has a key role in achieving the national goal of sustainable development set out in the National Development Vision 2020. It is also responsible for coordination of matters related to regional and international conventions and protocols on environmental affairs. The Department is furthermore responsible for promoting and monitoring the implementation of the environmental policy and corresponding Act, by all sectors of Government, private and by the people of Zanzibar. The Department is tasked with maintaining a well organized environmental information bank, providing environmental input into planning processes based on the national environmental policy, monitoring the state of the environment and organizing relevant research, tackling immediate environmental problems and stimulating other stakeholders to take action for environmental management and promoting awareness of, and training in, environmental issues.

Currently, there is increasing number of Non Governmental Organizations (NGOs) and Community Based Organizations (CBOs)

that have keen interest in environmental matters in Zanzibar. These groups have made significant achievements in terms of community mobilization, tree planting, cleaning of the surrounding environment, environmental advocacy etc., especially at village level in rural areas.

Private sector involvement and contribution to improved environmental resource management is acknowledged and realized in many countries. The contribution of this sector for environmental management, use of resources and rehabilitation in Zanzibar is generally limited.

2.2. Water Resources and supply

The principal source of water supply in Zanzibar is groundwater which can be found in different aquifers, widespread under the Islands, but with unknown and presumably limited quantities. According to Zanzibar Water Authority Strategic Business Plan of 2008 – 2013, the current annual water abstraction volume is about 30.56 million cubic meters. This currently serves 80% of the urban and 60% of the rural total demand of water in the Isles. It is estimated that over 50% of the extracted water is used for domestic purposes, while the rest are used for commercial, institutional and industrial activities.

Currently, the groundwater sources - particularly in the urban areas - are affected by the growing number of uncontrolled settlements that occur in the urban fringe of Zanzibar Town. This situation poses a serious threat to the quantity and quality of the water sources and supply. The increasing number of settlements near or within the vicinity of principal water sources intakes can affect recharging capacity of the ground water, thus resulting in lowering of the groundwater level and further affecting the discharging and production of the water. Furthermore, pit latrines and septic tanks and soak pits used widely in urban settlements are often constructed near or within the vicinity of ground water sources. This situation can cause rapid spreading of water borne diseases.

The growing tourism industry also puts more pressure on the already scarce water resources. Tourists, on average, use significantly more water than domestic users. Furthermore, relatively low annual rainfalls and shallow water tables amidst the coral terrains of the islands make water reserves and groundwater aquifers vulnerable and salt-water intrusion is an increasing reality in many coastal zones.

2.3. Non renewable natural resources

Non-Renewable Natural Resources are those resources which cannot be re-established or created naturally once extracted in a reasonable time horizon. In Zanzibar, these resources include sand, gravel,

rocks, stones, soil, moorum, and limestone, which are currently extracted. The demand for these non-renewable natural resources is increasing, however, rehabilitation is generally not done after extraction of the resources and the situation is clearly un-sustainable.

In 2011, the Department of Environment, Zanzibar, identified about hundred excavation spots (mining sites) on both Unguja and Pemba, which are areas of major activities for both domestic and industrial scale of excavation of non-renewable natural resources. The size of these open mines ranges between 0.25 to 6km² and it was further observed that very little rehabilitation had been initiated. The adverse effects and environmental impacts of land degradation caused by unsustainable excavation of non-renewable natural resources in Zanzibar is a major concern and, if not addressed properly, land degradation will continue and become irreversible. Major impacts associated with excavation of non – renewable natural resources in Zanzibar are loss of fertile, agricultural lands previously used for growing crops and for livestock grazing, increased soil erosion, increased deforestation, loss of productive agro-forestry areas with Coconuts, Mangoes, Java Plums, Cloves, Baobabs, Cotton-Silk Wood Trees etc., pollution of fresh water sources and exposure of ground water aquifers causing lowering of the groundwater table and increased salinity (sea water intrusion). . These activities lead to

permanent loss of economic sustainability, affecting the livelihoods of local communities.

2.4. Tourism Industry

The role of Tourism in the contribution of national income for Zanzibar is irreplaceable and since economic liberalization of the country two decades ago, tourism has taken the front seat in precipitating foreign exchange earnings for the economically vulnerable communities of the islands. Tourism sector now presents environmental and cultural challenges that need strong national attention to address socio-economic challenges, and restore the ecological balance and integrity of the coastal and marine ecosystems. The data from the Commission for Tourism (December 2011) indicates that, Zanzibar currently has 329 registered hotels and guesthouses with 6,719 rooms and 12,465 beds. Key environmental concerns associated with tourism industry in the islands are destruction of the coastal habitats through negative land use change dynamics, increasing of solid waste, littering and wastewater generation.

2.5. Energy

Current estimates are that fuel wood, charcoal and agricultural residues account for 97 percent of the domestic energy consumption and more than 90% of the population of Zanzibar continue to rely on wood-fuel as a source of domestic supply of energy for cooking.

Erratic power supply from Tanzania mainland (electricity supply via underground sea cables, sourced from hydro power, gas turbines and diesel generators) has compelled the islands of Zanzibar to revert back to the use of fossil fuel-powered generators for domestic and industrial electricity back up supply. Furthermore, the major power outages of 2008 and 2010 respectively of significant duration, on the main island of Zanzibar, have underpinned the weaknesses in the existing contingency plans towards alternative sources of energy.

Solar power is used in a few places for lighting especially for the rural population, but is not widespread yet and very little has been done in the exploration of potential renewable energy sources such as Wind and Sea Wave Power. Feasibility studies for sea wave power and wind energy projects have been done in two major potential sites, one in the south-east of Unguja and another in Pemba. However, the potential costs for such investments are beyond the national capacity. Even so, these sources cannot be expected to replace the existing conventional sources of energy such as the dependency on wood fuel, kerosene, and charcoal from local sources and the Tanzania mainland electricity supply.

Application and evolution of Biogas technologies in Zanzibar continues to progress, albeit, at a slow pace. Investment cost is generally too high given the low volume of a requisite number of

livestock farmers available in the rural areas and development and adoption of indigenous technologies for bioreactors given the bio-resources available is still required.

2.6. Biodiversity

2.6.1 Terrestrial biodiversity

Zanzibar's forests form part of the East African Coastal Forests Ecoregion, one of the world's 200 biodiversity hotspots. Zanzibar has about 15,000 hectares of reserved forest, which includes Jozani-Chwaka Bay (National Park), Ngezi, Masingini (Forest Reserve) and Kiwengwa-Pongwe (Forest Reserve) that are strictly for biodiversity conservation; and Unguja Ukuu, Chaani, Kibele, Dunga and Msitu Mkuu, which are for exploitation and conservation in some places. Besides this forest, the island has 11,806 ha (44.5% of land area) coral rag thickets, managed as community land. These thickets and bush land have traditionally been the major sources of wood products including energy in the Isles. Forestry in Zanzibar has significantly contributed to the livelihood of people of Zanzibar and will continue to do so – if well managed – for many years to come.

Forests also play important role in climate change mitigation as sources and sinks of Carbon Dioxide (CO₂). Forest biomass acts as a source of carbon when burned or when it decays. In this context, Zanzibar is currently involved in the Reduced Emissions from

Deforestation and Degradation (REDD) Pilot Project - a climate change mitigation measure that is systematically aimed over a long period of time at reducing global deforestation activities, which contribute up to 20% of the global emissions of CO₂.

The forests of Zanzibar are under pressure from several factors that include demographic pressure (population increase), high demand for energy, construction and building materials, foods, medicines and handicrafts. Wood and charcoal are still the most common sources of energy in rural areas and this has resulted in severe decline in the forest resource over the last 20 years. Current situation shows that fuel wood, charcoal and agricultural residues account for 97 percent of the domestic energy consumption. Growing demand for fuel wood, which cannot be sustained by the diminishing natural resources, has resulted in soil erosion, catchments and groundwater deterioration, as well as ecological degradation of environmentally sensitive areas. Furthermore, unplanned (illegal) harvesting and clearing can be observed all over the islands, particular in the coral rag areas. About 500 hectares of the coral rag forestry are cleared or destroyed annually and the deforestation rates are estimated to be at least 1% per annum. Hunting for bush meat also causes serious repercussion on the wildlife species abundance and distribution in the forests.

Mangrove ecosystems cover a total of 18,000 hectares in Zanzibar and they are widespread and best developed in natural estuaries. Currently, mangroves of Zanzibar face diverse number of threats that jeopardize their existence, including salt production, fuel wood demand, urban expansion and tourism industry development.

2.6.2 Marine Biodiversity

The coastal and marine environment of Zanzibar is a rich and complex system that includes coral reefs, sea grass beds, mangrove forests, sandy beaches as well as cultural resources. The system supports populations of marine life that rely on diversity for their productivity and area critical to Zanzibar's economic and social development as they underpin the livelihood of the population. The fisheries industry in Zanzibar provides the main source of protein for most of the population while at the same time a significant portion of the population is dependent directly or indirectly on employment related to the industry.

To ensure the sound management of marine environment, the Government of Zanzibar has created three Marine Conservation Areas (MCAs), the Menai Bay Conservation Area -MBCA (470km²), the Mnemba Island Marine Conservation Area - MIMCA (720 km²) and the Pemba Channel Conservation Area - PECCA

(1,000 km²). Furthermore, two MCAs are expected to be gazetted in the near future.

Recent studies reveal that the majority of the productive fishing areas, especially near the coast and in shallow water areas, are threatened by natural and anthropogenic stresses which cause coral bleaching, coral diseases and widespread degradation and depletion of marine biodiversity and habitats.

2.7. Waste management

Currently, there is in-sufficient data for the entire area of Zanzibar (Unguja and Pemba) to estimate the amount of waste generated. The only available data for the solid waste management is for the Zanzibar Municipality, where 260 tons of solid wastes are currently generated daily in the Municipality (2006 estimate). Over 80% of the solid wastes generated in the Zanzibar Municipality are of organic origin and an estimate 60% of the waste is not properly collected. There is no solid waste separation in all steps of solid waste management and subjected to crude form of dumping. Additionally, the problem of electronic and electrical waste (e-waste) has recently emerged in Zanzibar. Disposal of used items like computers, fridge and freezers, cookers, air conditioners, electrical appliances has been a challenge to the natural environment in Zanzibar.

The Zanzibar Household Budget Survey of 2005 revealed substantial numbers of households, which have no toilet (28%) or used the seashore as a toilet (4%). It is estimated that, more than 50% of the diseases that affects people of Zanzibar are water- and sanitation-related. Currently (2012), there is no centralized sewerage system in the Zanzibar, only Stone Town and some areas in Ng'ambo of the Zanzibar Municipality are served by a sewerage system. Domestic wastewater is discharged into septic tanks, after which the overflow combines with storm water and gets finally disposed into the sea. At present (2012) large quantities of sewage, estimated to be more than 2,200m³/day, are discharged into the marine environment without effective treatment.

2.8. Hazardous substances

Currently (2012), there is in-sufficient data with regards to importation of hazardous substances in Zanzibar, however it is assumed that a substantial amount of hazardous substances are imported for various socio-economic activities, which includes agriculture, industries and health sector. In 1996, Zanzibar managed to repack and transport 360 tonnes of obsolete hazardous substances to United Kingdom for proper disposal through the sponsorship of Dutch Government. At that time, Zanzibar was declared free of hazardous substance and Persistent Organic Pollutants (POPs). However, inventory conducted in 2003 in the

country showed a stockpile of 150 kg of Dichlorodiphenyltrichloroethane (DDT) and more recently (in 2011) the stockpile inventory revealed that there were 2.5 metric tonnes of expired Acaricides (used to kill ticks and mites) and Pesticides in Zanzibar. Accumulation of toxic chemicals in a small island states raise environmental concerns of widespread contamination of soils and subsequent pollution of both surface and ground water aquifers and finally jeopardise public health and environment.

2.9 Land Use Planning

The population of Zanzibar is rapidly increasing. Assessments indicate that about 60 to 70 percent of the urban residents live in unplanned or unauthorized settlements, which are characterised by inadequate basic services such as availability of clean water, open areas, accessibility, sanitation facilities and gardening spaces. The environmental challenges, which are associated with land use planning in Zanzibar, are in term of increase of informal settlements; encroachment of catchments areas, wetlands and arable lands; encroachment of open areas, gardens and reserve lands, urban wastes and disposal.

Therefore, limited application of integrated land use planning can be a precursor to increased deforestation, land degradation and environmental pollution problems such as food and water

contamination, outbreak of infectious diseases, sewage problems, air pollution, unaccounted effluent discharges from hospitals, electroplating, garages, abattoirs, and other industrial activities.

2.10. Climate Change

Climate change is one of the biggest global problems posing challenges to sustainable livelihoods and economic development, particularly for Least Developed Countries (LDCs) like Zanzibar. Climate Change adaptation and mitigation remains a major national priority as mentioned in Zanzibar Strategy for Growth and Reduction of Poverty (ZSGRP). It is imperative to engage in the national efforts to rescue the fragile island forest and coastal ecosystems from the impacts of global warming and climate changes. Data on current climate changes in Zanzibar is limited and better information is required to improve climate change *preparedness*, but concerns are clear: it is expected that detrimental impacts is occurring or will occur in regard to e.g.: fisheries and agricultural productivity, food security, public health, and water availability. The Revolutionary Government of Zanzibar has established national climate change committees and working groups to prepare the country for a national response framework to impacts and vulnerabilities of climate change on the isles ecosystem and the resulting socio-economic vulnerabilities to the population.

2.11. Health and HIV/AIDS

Malaria, Diarrhoea and Cholera are among the common diseases in Zanzibar, which are associated with environmental health related problems. Zanzibar has been experiencing seasonal epidemics of Acute Diarrheal Diseases (ADD) including cholera as in most developing countries. The most common months are those coinciding with the rainy season, i.e. in the periods of March to June and October to November every year. According to the Annual Health Information Bulletin of 2010, there was a major reduction in the number of patients admitted to health facilities with a diagnosis of cholera from 605 cases (2009) to 248 cases (2010) on both Unguja and Pemba. These results may have been attributed to the positive impact of Oral Cholera Vaccination (OCV) intervention conducted by Ministry of Health and other Development Partners (World Health Organisation, Swiss Tropical Institute and International Vaccine Institute). The Zanzibar Malaria Control Programme (ZMCP) has mainly focused on integrated interventions for malaria control. These interventions include among others Vector Control, Case management, Surveillance and Monitoring. Through this approach, Zanzibar has experienced a dramatic decline in number of malaria cases and now recognized at national and global level to be among countries moving towards a new phase of malaria elimination.

On the other hand, the Revolutionary Government of Zanzibar is committed to address HIV/AIDS in the high risk areas. The Government is aware that - in a country with a small population like Zanzibar and limited skilled workforce - responding effectively to HIV/AIDS is both an urgent health issue and a development imperative. HIV/AIDS is widely known to have had devastating impacts on families and communities in Zanzibar. Moreover, HIV/AIDS has affected the environment sector through impacts on human capacity, natural resources and land use change dynamics.

2.12. Gender and vulnerable groups

The Government recognizes the importance of gender equality as a vital component of sustainable development. Men and women, youths and people with disabilities (PWD) play an important role in most environmental management issues. Without full and equal access to all levels of economic opportunity, education, and health care services, women and other vulnerable groups are more likely to suffer first from the adverse effects of environmental pollution, degradation of natural resources, climate change, and deterioration in the national health performance. In general, women, children and people with disabilities are more vulnerable to the effect and impacts of climate change, environmental pollution and degradation.

2.13. Oil and Gas Exploration and Production

The oil and gas industry comprises of two parts: “upstream” – the exploration and production sector of the industry and “downstream” sector that deals with refinery and processing of crude oil and gas products, their distribution and marketing. The activities involved in the oil and gas exploration and production include the exploration surveying, exploration drilling, appraisal, development and production and decommissioning and rehabilitation. Oil and gas exploration and production operation have the potential for a variety of impact on the environment, which include human, socio-economic and cultural impacts, atmospheric impact, aquatic impacts, terrestrial impacts, potential emergencies and ecosystem impacts. Although Zanzibar is not currently exploring or operating oil and gas production, concrete environmental policy statement related to these activities needs to be stipulated due to the strong likelihood that such activities will commence in the future (exploration is on-going in several areas adjacent to Zanzibar waters).

CHAPTER 3: POLICY LINKAGES

This section explores inter-sectoral linkages in environmental conservation and management in Zanzibar and how these sectors have incorporated environment issues in the sectoral policies, or how the sectoral policies have addressed the issues. The main sectors that are directly or indirectly concerned with environment and natural resources management are taken into account.

3.1. Vision 2020 and ZSGRP

The Zanzibar Vision 2020 articulates the overall development goal for Zanzibar as the eradication of absolute poverty and the attainment of sustainable human development. The Vision's policy on environment is the conservation and protection of the environment, rational and efficient utilization of natural resources. It is envisioned that sustainable economic development should be accompanied by proper environmental management so that Zanzibar's natural resources and natural heritage are passed on to future generations.

The first and second generation of the national development framework (ZSGRP or MKUZA 1 and 2) are in line with the international goals, commitments, and targets, including the MDGs. The focus is on the reduction of both income and non-income poverty; and ensuring the attainment of sustainable growth. The

ZSGRP emphasizes environmental management issues such as sustainable and gender focused environmental management system, reduction of the environmental degradation and waste management (solid, wastewater, hospital and hazardous waste).

3.2 Agricultural Sector Policy (2000)

The agricultural Sector Policy includes crops, fisheries and livestock production. The overall goal of Agricultural Sector Policy is to promote sustainable development of the agricultural sector for economic, social and environmental benefits for Zanzibar people. The policy recognizes that environmental degradation is an issue of major concern in agricultural development attributed to lack of public awareness on the preservation and conservation of environment and natural resources. Other attributed factors include the rate of population growth and density; and use of dangerous agro-chemicals and pesticides in agricultural activities.

Moreover, other environmental issues highlighted in the policy include: sustainable fishing practices; control of destructive fishing gear; sustainable utilization of offshore resources; increasing environmental conservation awareness among fishermen and integrated coastal zone management. In conclusion, the policy recognizes that environmental protection is a prerequisite management tool for maximum achievement of sustainable

agricultural, livestock and fishery production. The policy recommends the establishment of a special unit to co-ordinate proper mainstreaming of environmental norms into agricultural sector development activities.

3.3. Water Policy (2004)

The water policy recognizes the importance of environmental consideration in the development and implementation of water resources and sanitation management in the country. It clearly states that the development of water and sanitation programmes should be done in a way that is not harmful to the environment and that the utilization of water by one generation should not in any way adversely affect the prospect of utilization by subsequent generations. The policy pays special attention to the implementation of Environmental Impact Assessment (EIA), environmental monitoring and control, water security, water pollution, soil degradation, depletion of water resources, drinking water quality, waste disposal, hygiene, drainage and sanitation as requisite issues towards provisions and supply of potable water. The policy calls on environmental authorities to provide environmental advisory and guidance so as to ensure that the set objectives for the water policy with respect to environmental conservation and protection are properly achieved.

3.4. Education Policy (2006)

Education policy recognises the necessity of incorporating environmental education into the school curricula that includes the environmental management and conservation of land, water and air. Strong coordination between the environmental authority and the Ministry responsible for Education is needed so as to easily mainstream environmental education subjects into the school curricula and perform special long and short courses, trainings for professional staffs, and students in different education levels.

3.5. Zanzibar Investment Policy (2004)

Zanzibar Investment Policy is aimed at promoting private sector expansion and sustainable economic development. The policy outlines priority sector focuses for expansion of investment, which include agriculture, fish and marine products, manufacturing, trade and tourism. Although, the policy has not considered the environment aspect, development of the outlined focused sectors will need to mainstream environment issues so as to attain sustainable economic development.

3.6. Forest Policy (1996)

Forest policy is one among few sector policies in Zanzibar where effective environmental concerns are considered in detail in every policy sub-sector. The overall environmental goal of this policy is to protect and conserve forest resources including wildlife, flora and

fauna and enhances the role of forest resources in maintaining soil and water conservation. The policy also puts emphasis on the conservation and development of the forest resources for present and future generations, and on the need for comprehensive and perpetual tree planting as well as public education.

3.7. Tourism Policy (2005)

The Tourism policy greatly emphasizes the need for environmental conservation and protection and, rational and efficient utilization of the natural resources. The policy strongly supports sustainable tourism development that is consistent with best practices of environmental management.

3.8 National Land Use Plan (1995)

The National Land Use Plan (NLUP) for Zanzibar recognizes that agriculture forms one of the largest land consuming sectors in Zanzibar, absorbing about 60 percent of total land area. The critical environmental issues with respect to land aspects relate to rapid increase of population; uncontrolled encroachment of urban settlement into fertile land for agriculture and water catchments; urban expansion without considering any integrated environmental regulations and guidelines; and problems of un-registered land parcels. The main inadequacy in NLUP is lack of land zoning resulting into encroachment of agricultural land. These inadequacies could result into land use conflicts; uneconomic use of land; wastage

of scarce land; and degradation of natural resources. The new environment policy is set to address these concerns through strengthening enforcement mechanism and elaborating roles and responsibilities of district and community level institutions.

3.9. Zanzibar Disaster Management Policy (2011)

The focus of this policy is on disaster risk reduction and livelihoods support. The aim is to develop the required national capacity to coordinate and collaborate on comprehensive disaster management programs among the principal players at all inter-sectoral levels. Issues discussed in the policy include erratic rainfall patterns, food shortages, marine accidents, fire outbreaks, terrestrial and marine degradation, depletion of mangrove forests, and waste management.

3.10. Zanzibar Information Policy (2005)

The overall objective of Zanzibar Information Policy is to inform the Zanzibar society on socio-economic changes and development trends with particular attention on the fight against poverty and in the provision of basic social services such as education, health and safe drinking water. As such the policy has strategic impact on environmental management as it promotes effective communication on various environmental related policies and programmes as well as concerns of communities related to environment degradation, depletion of biodiversity, climate change and sustainable use and protection of natural resources.

3.11. Gender Policy (2012)

The general objective of Zanzibar Gender Policy is to provide a national framework for planning, implementation, coordination, monitoring and evaluation in a wide range of issues that impedes equality and equitable development of women and men in Zanzibar. The policy recognizes the major role women play in matters related with environment and natural resources for sustainable socio-economic development. The policy addressed the needs for appropriate measures to reduce environmental pollution and degradation.

3.12. National Health Policy (2011)

The Zanzibar National Health Policy is supposed to provide general directions to health sector development in Zanzibar. The main objective of the health policy is to improve health services and social welfare of the people of Zanzibar. Clean environment, chemical and e-waste, inadequate management of hospital (both solid and wastewater), and existence of households without proper toilet facilities, pollution of water sources, air and sounding environment and increasing population are highlighted in the policy as major constraints to a better health communities in Zanzibar.

CHAPTER 4: POLICY VISION, OBJECTIVES, STATEMENTS AND STRATEGIES

4.1. Policy Vision

Sound environment management for sustainable economic and social benefit for present and future generations.

4.2. Policy Mission

To promote sound and sustainable environmental management practices through provision of policy guidance, institutional strengthening and cooperation.

4.3. Policy Objectives

4.3.1 Overall Objective

The overall objective of Zanzibar Environmental Policy (ZEP) is to pave the way for the protection, conservation, restoration and management of Zanzibar's environmental resources, such that their capacity to sustain development and maintain the rich environmental endowment for the present and future generations is not impaired.

4.3.2 Specific Objectives

- i. To strengthen institutional mechanisms needed for environmental protection and conservation of both terrestrial and marine natural resources.
- ii. To prevent and control pollution and degradation of terrestrial, air, marine and other aquatic environment.

- iii. To integrate environmental concerns into development policies, plans, programs and projects so as to sustain the ecological biodiversity and natural resources base of the country.
- iv. To raise public awareness and understanding of the sound environmental management so as to increase individual and community participation in environmental actions.
- v. To enhance local, regional and international cooperation on the environmental agenda and facilitate implementation of the conventions and protocols.

4.4. Guiding Principles of the Policy

The policy is based upon the following guiding principles underscoring the need for a continual protection, conservation, and preservation of the environment:

- i. The right to life and healthy environment as a precursor towards improved standards of living.
- ii. The findings of the inter-governmental panel on climate change towards climate change adaptation and mitigation.
- iii. Polluter Pays Principle as a deterrence against air, water, and soil pollution.
- iv. Precautionary Principle in the context of social responsibility and available scientific information.
- v. Principles of Sustainable Development and intergenerational equity.

- vi. Resource Efficiency and Cleaner Production in effective management of the environmental resource base.
- vii. Availability of mitigating or greener technologies that reduce waste generations, emissions, and exploitation of natural resources.
- viii. Principles of Environmental governance and increased management of the environmental resource base.
- ix. Environmental Education, Awareness, and Accountability
- x. Implementation of International obligation from Environment-based Conventions and Protocols through bilateral, multilateral, and public-private partnership.
- xi. Scientific Research and Technical Cooperation in the Coastal and Marine Environment

4.5. Environmental Policy Instruments

The following key instruments and implementation principles will be employed for achieving the objective of the policy:

4.5.1. Legal and Institutional Instruments

- i. Environmental enforcement of existing legislative and regulatory framework in the country.
- ii. Development of environmental regulations, guidelines and standards.

- iii. Review of the existing Environmental-related legislations and development of new legislations where required and appropriate.
- iv. Carry out regular inspections and monitoring systems of all industries for effective implementation of the compliance program.

4.5.2. Capacity Building and Research

- i. Institutional strengthening through the provision of qualified and competent staff.
- ii. Enhanced enforcement authority infrastructure with central and district offices.
- iii. Provision and availability of field survey, monitoring and analysis equipment, infrastructure and financial resources to enable them to effectively implement the policy.
- iv. Establishment of Zanzibar Environmental Information Management System (ZEIMS) to provide accurate and timely environmental information for key decision-making processes and for the public right to information.
- v. Preparation of short, medium and long-term programs for imparting a comprehensive training needs assessment.
- vi. Integrating environmental curriculum in the Public sector training institutions.
- vii. Inception of the national environmental research priorities.

- viii. Strengthening of relevant research and development institutions

4.5.3. Economic and Market Based Instruments

- i. Removal of trade barriers on the import of clean, non-polluting, and green technologies.
- ii. Incentives including reduced tariffs, tax concessions and other incentives (such as environment and energy awards) would be offered to private and public sector for compliance with environmental laws and standards.
- iii. Industries, tourism development projects and other development projects would be encouraged to introduce environmental accounting systems in their financial management systems.
- iv. Eco-Labeling in manufacturing processes, and in certified products, energy service and conservation compliances, and ecotourism would be promoted.

4.5.4. Public Awareness and Education

- i. Environmental education would be integrated into all levels of school curricula and syllabi from primary to university levels.
- ii. Establishment of environmental education and training institutions would be encouraged.
- iii. Establishment of environmental clubs in educational and other public institutions will be promoted.

- iv. Increased cooperation with educational institutions, the media and other organizations in the implementation of environmental education programs.
- v. Enhanced involvement of political leaders and faith-based groups in order to mobilize popular support for efficiency in natural resources management.
- vi. Publication of regular conservation manuals, magazines and brochures for the use by Civil Society Organizations.
- vii. Development of coordinated mechanisms for sector-specific institutions to establish their own environmental mainstreaming programs into their planning programmes, policies and projects.
- viii. The concept of “participatory approaches and practices” would be included in the curriculum of environmental education and training programmes

4.5.5. Public-Private-Civil Society Partnership

- i. National and local governments would be encouraged to build a strategic partnership with private sector and civil society organizations for effective environmental management, enforcement, and compliance.
- ii. Public-private partnership for expansion and improvement of environmental services such as potable water supply, sewage

disposal, efficient transport and efficient energy production would be promoted.

- iii. Sector-specific environmental advisory committees involving public, private and civil society organizations would be established.

4.5.6. Technical Assistance and Support Programs

- i. Increased regional and international collaboration in the implementation of international environment-related conventions and protocols through bilateral and multilateral support initiatives.
- ii. All bilateral, regional and international multilateral environmental agreements, protocols and convention for which the United Republic of Tanzania is a party, will be implemented in line with the Zanzibar Environmental Policy and Zanzibar Environmental Management for Sustainable Development Act.
- iii. Climate Change Adaptation and Mitigation support programs and projects will be implemented under the Zanzibar Climate Change Committee, which will prepare the Zanzibar Climate Change Strategy and coordinate in the implementation of Reduced Emissions from Deforestation and Degradation (REDD).

- iv. Policy and operational framework for effective management of Clean Development Mechanisms process would be developed and implemented.

4.5.7. Voluntary Agreements, Guidelines and Practices

- i. Promote and develop agreements between the Government and industries that will help in preservation of environment and lessen land degradation and environmental pollution in areas that are yet to be covered under the existing legislations.
- ii. The Government will work together with artisanal excavators of non-renewable natural resources in the implementation of environmental accountability schemes in excavation and rehabilitation activities.
- iii. Increased inter-sectoral cooperation between public institutions in the implementation of compliance standards
- iv. Carry out joint operations in implementation of best practices in the environmental management of industries and of the country in general.

4.6 Policy Statement and Strategies

4.6.1. Environmental Governance

Environmental governance in the context of Zanzibar includes key elements of environmental policy and strategic planning; development and implementation of plans and programs at national

and local levels; development and enforcement of environmental laws and regulations, norms, and standards; and establishment and operationalization of institutional mechanism that supervise, execute, and monitor all environmental aspects.

Issue:

There is an inadequate capacity for the effective coordination, law enforcement and environmental management practices. This is mainly attributed to insufficient financial support and facilities, inadequate public awareness, laxity for law enforcement and lack of infrastructure for the environmental management establishment.

Objective:

To improve environmental governance for effective environmental enforcement and compliance in Zanzibar.

Policy Statement 1:

The Government will strengthen the Environmental Governance and intra and inter-sectoral coordination for effective environmental practices and law enforcement.

Implementation strategies:

- i. Coordinate the establishment of Technical Environmental Units in all Government Sectors that will liaise with the

Department of Environment and carry joint operations for the purpose of environmental legislation and regulations.

- ii. Promote preparation and enforcement of national environmental standards, guidelines, codes of conduct, and best practices in environmental enforcement and compliance regime for Zanzibar.
- iii. Strengthen human, financial and institutional capacity and coordination among institutions responsible for environmental affairs.
- iv. Promote local, regional and international cooperation and networking.
- v. Promote environmental actors (community, civil society organizations, public and private sectors) involvement and participation in the protection and conservation of environment.

4.6.2. Water Resources and supply

The principal source of water supply in Zanzibar is groundwater, which can be found under different aquifer conditions. Currently, the groundwater sources particularly in the urban areas are affected by the growing number of uncontrolled settlements, particular informal settlements that occur in the urban fringe of the Zanzibar Town. Population increase and economic growth including tourism and agriculture sectors put more pressure on the limited water resources.

Issue:

There is degradation of surface and ground water resources due to encroachment of water catchments areas, deforestation of the catchment zones and impacts of climate change, which result in reduction of quantity and quality of water supply.

Objective:

To improve conservation of water resources and sustainable uses of water supply.

Policy Statement 2:

The Government will ensure prevention of contamination of water resources and protection of water catchments areas for sustainable and safe water supply.

Implementation strategies:

- i. Promote proper and appropriate sanitation and waste management techniques.
- ii. Develop and enforce groundwater and catchment management and protection regulations.
- iii. Promote public awareness on protection and sustainable use of water.
- iv. Promote integrated water resources management practices.
- v. Promote rainwater harvesting techniques.

- vi. Promote enforcement mechanism of water related laws, regulations and water services schemes.
- vii. Promote climate change adaptation and mitigation programs.
- viii. Promote environmental friendly desalinization practices.

4.6.3. Non renewable natural resources

There is an increasing demand for non-renewable natural resources (sand, gravel, rocks, stones, soil, moorum, and limestone). The adverse effects and environmental impacts of land degradation caused by extraction of the resources and the situation are clearly un-sustainable.

Issues:

There is an increase of land degradation caused by unsustainable excavation of non renewable natural resources leading to loss of productive lands and biodiversity, increased soil erosion and exposure of ground water aquifers.

Objective:

To minimize land degradation caused by excavation of non renewable natural resources and rehabilitation of the excavated lands.

Policy Statement 3:

The Government will promote the rational use of non-renewable natural resources and rehabilitation, with minimal damage to the environment.

Implementation strategies:

- i. Develop and implement zoning scheme for quarrying of different non-renewable natural resources.
- ii. Develop and implement participatory procedures for quarrying non – renewable natural resources and rehabilitate the quarry sites.
- iii. Promote enforcement mechanism of the Environmental Management Act and Regulations pertaining with non-renewable natural resources.
- iv. Promote public awareness on rationale use of non-renewable natural resources.
- v. Promote the use of alternative materials to non-renewable natural resources.
- vi. Promote alternative sources of livelihoods.

4.6.4 Tourism Industry

Tourism sector increasingly presents environmental and social challenges that need strong national attention to restore the ecological balance and integrity of the coastal and marine ecosystems. Key environmental concerns associated with tourism

industry in the islands are destruction of the coastal habitats through negative land use change dynamics, land reclamation, construction of jetties and sea walls, increased use of water resources, and a significant increase of solid waste generated and wastewater discharged.

Issues:

The principal challenge in sustainable tourism in Zanzibar is the inadequate coordination among relevant sectors in incorporating environmental protection as an integral part of tourism development planning.

Objective:

To improve tourism practices, which are environmentally sound and socially acceptable.

Policy Statement 4:

The Government will ensure strong coordination in the mainstreaming of environmental and social concerns into tourism projects.

Implementation strategies:

- i. Strengthen the enforcement of national tourism zoning plan.
- ii. Promote environmental and social assessment in the tourism projects.

- iii. Promote best practices of waste management handling and disposal techniques.
- iv. Promote participatory eco-tourism planning and implementation.
- v. Promote public awareness on environmental and social tourism practices.
- vi. Promote sustainable tourism for all.

4.6.5 Energy

Energy is central for socio-economic development and it affects all aspects of development including livelihoods. So far, very little has been done in the exploration of potential environmental friendly energy sources in the country. Hence Zanzibar population continues to rely on wood-fuel as a source of domestic supply of energy for cooking; which increases pressure on forestry resources and loss of biodiversity.

Issues:

Inadequate reliable and affordable environment - friendly energy sources in Zanzibar caused by limited knowledge, technology and capital investment.

Objective:

To improve national capacity to develop and manage reliable and affordable environment - friendly energy sources in Zanzibar.

Policy Statement 5:

The Government in collaboration with development partners and other stakeholders will identify and develop reliable and affordable alternative environmental friendly sources of energy.

Implementation strategies:

- i. Promote uses of reliable, renewable and affordable source of energy.
- ii. Promote uses of energy efficient appliances.
- iii. Promote public private partnership to facilitate availability of reliable, renewable and affordable source of energy.
- iv. Enhance fuel wood production through tree planting programs.
- v. Promote public awareness on efficient use of energy.

4.6.6. Biodiversity

In Zanzibar, biodiversity habitats are characterised by depletion of marine and terrestrial natural resources that have recently been under serious exploitation pressure. The destruction of biodiversity is due to multiple of factors including limited income generation activities for communities, demographic changes, development programmes and its associated high demand for natural resources products.

Issues:

The marine and terrestrial ecosystems are under great utilization pressures, which threaten their existence. Severe exploitation of natural resources for socio-economic activities downgrades the quality of marine and terrestrial ecosystems in Zanzibar.

Objective:

To improve conservation of marine and terrestrial biodiversity.

Policy Statement 6:

The Government will ensure sustainable management of the flora and fauna and the associated ecosystems in marine and terrestrial environment.

Implementation strategies

- i. Promote and implement Integrated Coastal Zone Management system.
- ii. Support the formulation and start of the National Protected Areas Board to deal with marine and forestry protected areas.
- iii. Develop and implement national biodiversity strategy and action plans.
- iv. Promote public awareness on the conservation and protection of biodiversity.
- v. Promote establishment and management of conservation and protected areas in the marine and terrestrial environment.

- vi. Promote law enforcement to protect biodiversity.
- vii. Control the population of Indian House Crow and other invasive species.
- viii. Promote interventions that support livelihoods.
- ix. Promote biodiversity restoration in the ecological degraded areas.

4.6.7. Waste Management

Currently, there is in-sufficient data for the entire area of Zanzibar (Unguja and Pemba) to estimate the amount of waste generated, but it is estimated that 260 tons of solid wastes are generated daily in Zanzibar Municipality (2006 estimate). Over 60% of the total amount of solid waste generated (organic, inorganic, e-waste etc) in Zanzibar are not properly collected and therefore accumulated in various areas. Currently, there is no proper and effective method of waste (solid and wastewater) disposal in Zanzibar.

Issues:

Inadequate national capacity to properly manage (handling, collection, disposal, recycling, reuse and treatment) solid waste and wastewater generated in the communities.

Objective:

To improve waste management system and reduce negative environmental and health impacts.

Policy Statement 7:

The Government in collaboration with private sectors and other stakeholders will improve waste management practices at all levels.

Implementation strategies

- i. Promote proper and appropriate infrastructure services required for waste management (handling, reduction, collection, disposal recycling, reuses and treatment).
- ii. Promote proper and appropriate environmental sanitation facilities.
- iii. Promote public private partnership and community involvement and participation in waste management.
- iv. Promote public awareness on proper waste management practices.
- v. Promote environmental standards and guidelines for waste management.
- vi. Promote cleaner production techniques to reduce waste at sources.
- vii. Promote polluter pay principles.

4.6.8. Hazardous Substances

Zanzibar has no reliable data regarding with the importation of hazardous substances. It is anticipated that a substantial amount of hazardous substances are imported for various socio-economic

activities, which includes agriculture, industries and health sector. Increasing accumulations of toxic chemicals in Islands raise environmental concerns of contamination of soils and subsequent pollution of both surface and ground water aquifers and finally jeopardise public health and environment.

Issues:

There are no clear guidelines and measures for the management of hazardous substances to protect the environment.

Objective:

To control environmental contamination and pollution from hazardous substances.

Policy Statement 8:

The Government will ensure proper handling, uses and disposal of hazardous substances.

Implementation strategies

- i. Develop and enforce regulations, guidelines and codes of good environmental practices for managing hazardous substances.
- ii. Promote national capacity for managing hazardous substances.

- iii. Develop and implement monitoring schemes of importation, exportation, uses and discharging of hazardous substances.
- iv. Promote public awareness and education on best practices of handling and managing hazardous substances.
- v. Promote organic farming techniques.
- vi. Enhance coordination of the different actors of agrochemicals and pesticides.

4.6.9. Land Use Planning

Land is a primary resource for survival and development of Zanzibar. The importance of land in the development is underlined by the fact that most of the population derive their livelihoods and incomes from land resources, i.e. through farming, livestock production, quarrying, tourism, forestry etc. It is furthermore noted that Zanzibar has high rate of population density and urbanization associated with land requirement and environmental challenges.

Issues:

There is an increasing demand for land, which is associated with improper land use and environmental problems. The problems are compounded by lack of appropriate land use planning, coordination and limited participation in the planning and decision making process by stakeholder and land users.

Objective:

To minimize environmental problems associated with land use and land use planning.

Policy Statement 9:

The Government will ensure that integrated land use plan at all level is compatible with environmental management process.

Implementation strategies

- i. Promote integration of environmental consideration in the land use planning process at all level.
- ii. Encourage participatory land use planning at all levels, for tourism, agriculture, settlement etc.
- iii. Promote effective management and conservation of environmentally sensitive areas.
- iv. Enhance the establishment of the integrated Digital Zanzibar Environmental Information Management System.
- v. Promote public awareness on environmental issues related to land use and land use planning.

4.6.10. Climate Change

Zanzibar is fragile and vulnerable to climate change. Climate change impacts have the potential to undermine progress made in agriculture, livestock, fisheries, tourism, forestry, water resources

etc., which could result in failure of the implementation of the MDGs.

Issues:

There is inadequate national capacity to manage (preparedness, mitigation and adaptation) the ongoing and future socio-economic and environmental consequences caused by climate change.

Objective:

To minimize risks and consequences associated with climate change impacts.

Policy Statement 10:

The Government in collaboration with partners will secure national capacity to manage (preparedness, mitigation and adaptation) climate change effects and implement climate change programs.

Implementation strategies

- i. Develop and implement participatory national strategies, programs and plans on climate change issues.
- ii. Develop and implement climate change financing mechanism for Zanzibar.
- iii. Promote national capacity to deal with climate change issues.
- iv. Promote public awareness and education on climate change related issues.

- v. Enhance local, regional and international cooperation on Climate Change issues.
- vi. Enhance Zanzibar Climate Change Governance framework and coordination among stakeholder institutions.

4.6.11. Public Health

Inadequate environmental management can lead to significant impact to human health and ultimately on the socio-economic development in Zanzibar. The current state in terms of sanitation practices; waste handling and disposal, hygiene behaviour etc. contributes to the common related environmental diseases in Zanzibar.

Issues:

There is an increase of public health problems which is associated with inadequate environmental management practices.

Objective:

To improve environmental management practices so as to minimize public health related problems in the country.

Policy Statement 11:

The Government will safeguard public health by analyzing and addressing environmental problems that lead to health related problems.

Implementation strategies

- i. Enhance management capacity for proper handling and disposal of hospital, hazardous, chemicals and other wastes.
- ii. Promote clean, safe water supply and protect water sources.
- iii. Enhance mainstreaming of HIV/AIDS into environmental management strategies and programs.
- iv. Enhance the development of national disaster preparedness and management response.
- v. Promote public awareness on environmental health related issues and disaster management programs.
- vi. Promote clean-up operations at all levels.

4.6.12. Gender and vulnerable groups

Without full and equal access to all levels of economic opportunity, education, and health care services, women, poor and other vulnerable groups are more likely to suffer first from the adverse effects of environmental pollution, degradation of natural resources and climate change. Furthermore, they are more likely to embark on detrimental activities to the environment.

Issues:

There is limited capacity, involvement and participation of the women, poor and other vulnerable groups in the protection and management of environment.

Objective:

To improve participatory environmental management practices that is gender sensitive and inclusive of poor and vulnerable groups.

Policy Statement 12:

The Government will ensure mainstreaming and participation of women, poor and other vulnerable groups in environmental management practices.

Implementation strategies

- i. Promote women, poor and other vulnerable group's participation in all environmental management practices.
- ii. Promote public awareness on key issues relating to engagement of women, poor and other vulnerable groups in all environmental management practices.
- iii. Promote environmental technologies and infrastructures that are appropriate and easily accessed by women, poor and other vulnerable groups.

4.6.13. Oil and gas exploration and production

Zanzibar is not currently exploring or operating oil and gas production. However, concrete environmental strategies and actions related to these activities need to be conducted so as to control and minimise significant negative social and environmental impacts that may happen.

Issues:

There is limited national capacity to properly managed oil and gas exploration and production activities as well as handling oil spills and pollution.

Objective:

To minimize negative environmental and social impacts caused by oil and gas exploration and production processes.

Policy Statement 13:

Ensure national capacity for sustainable and environmental friendly oil and gas exploration and production.

Implementation strategies

- i. Promote national environmental capacity to deal with the oil and gas exploration and production.
- ii. Develop and implement proper environmental tools and procedures to deal with oil and gas exploration and production.
- iii. Promote public awareness and education on oil and gas exploration and production.

4.6.14. Public participation and awareness

Public participation and awareness is considered an essential tool for sound environmental management, which needs to be promoted

widely in Zanzibar. Everyone has opportunity and responsibility to make environmentally – friendly choices that can reduce or minimise their impacts on the environment and promote sustainable development. In addition, more environmental education and knowledge on best practices is required.

Issues:

The level of public participation within the entire community of Zanzibar is not satisfactory, resulting in the current state of environmental affairs associated with deterioration of the environment.

Objective:

To increase public participation on environmental issues and develop attitudes and skill which are conducive to the achievement of ecologically sustainable development.

Policy Statement 14:

The Government will ensure public awareness and active participation on environmental management practices.

Implementation strategies

- i. Enhance environmental education programs into school curriculum at all level.

- ii. Strengthen public awareness and outreach programs in the society.
- iii. Promote environmental information sharing and networking.
- iv. Promote environmental studies and dissemination.

4.6.15. Environmental assessment

Environmental assessment such as Environmental and Social Impact Assessment and Strategic Environmental Assessment are essential tools for sound and sustainable development to assess the impact of the development activities to the environment. The purpose of this type of assessment is to minimise the adverse impacts of plans, programs and projects to the surrounding environment, and to enhance positive effects when identified.

Issues:

There are increasing number of programs, plans, policies and projects, where appropriate environmental assessments are not done resulting in deterioration of the environment.

Objective:

To secure mainstreaming of environmental norms and assessments into relevant programs, plans, policies and projects.

Policy Statement 15:

The Government will ensure incorporation of environmental assessment into procedures for designing and implementing development programs, plans, policies and projects.

Implementation strategies

- i. Promote application of Environmental Assessment Tools (Environmental Impact Assessment - EIA, Strategic Environmental Assessment – SEA etc) to all investment and development projects before their establishment.
- ii. Strengthen public awareness and outreach programs on the application of the Environmental Assessment Tools.
- iii. Enhance monitoring programs and assessment for the state of the environment.

CHAPTER 5: ENABLING ENVIRONMENT FOR POLICY IMPLEMENTATION

The Government of Zanzibar recognises the need for an institutional and legal framework capable of ensuring that the environmental policy is implemented and, in particular, that sound environmental management more fundamentally becomes an integral part of the development process. This requires not only that environmental management is integrated into the regular national planning process, but also that all ministries and other stakeholders of development incorporate environmental considerations into their planning and implementation processes.

The role of the “Institution responsible for environment” has to be very broad, because environmental issues are multi-sectoral, but it is important that the institution should avoid becoming a large bureaucracy or duplicate the work of others. Instead, it should work with and through other institutions wherever possible. To that effect the institution responsible for environment should have adequate mandate and capacity to execute its responsibilities and coordinate across all sectors.

5.1 Legal Framework

The new Environmental Policy implementation will require proper legal mandate for coordination of environmental management issues to be put under the auspices of a strong coordinating institution. The existing environmental related laws and other sectoral legislations will need to be reviewed in line with policies and strategies for effective implementation.

5.2 Institutional Framework

5.2.1 Ministry Responsible for Environment

The Ministry Responsible for Environment will be an authoritative voice and catalyst for environmental actions on behalf of the Government. The functions of the Ministry in relation to environmental issues shall be as follows:

- i. Provide overall guidance in environmental policy, planning and coordination, and in influencing and facilitating actions towards sustainable and sound environmental management.
- ii. Provide the basis for broad environmental governance in the administration of strategic policy decisions on a routine and continuous basis for coordinated environmental management.
- iii. Provide timely and substantive policy positions for ensuring that Government's perspective on the environment is communicated promptly and accordingly.

5.2.2 Institution responsible for day to day Environmental management

Given the multi-dimensional nature of environmental and climate change issues, several ministries and institutions need to work together in well coordinated manner so as to ensure that diverse sectoral and multi-sectoral policies relate to each other appropriately and make contributions to the immediate and longer term environmental management policy objectives. In this context, the placement and structure of the institution responsible for day to day environmental management activities in Zanzibar needs to reflect the current and future requirements for effective and efficient multi sectoral coordination toward sound and sustainable environmental management in Zanzibar. The institution responsible for day to day environmental management activities in Zanzibar can be at the level of Department or and Authority or Commission with the following responsibilities:

- i. Advise the Government on legislative and other measures for the management of the environment.
- ii. Promote and monitor the implementation of the environmental policy, by all sectors of Government, private, civil society organization and by the people of Zanzibar.
- iii. Promote environmental enforcement and compliance.

- iv. Undertake and co-ordinate research, investigation and surveys in the field of environment and collect, and disseminate information about the findings of such research, investigation or survey.
- v. Maintain a well organised environmental information base.
- vi. Promote the integration of environment considerations into development policies, plans, programmes, strategies, projects and strategic environmental assessment.
- vii. Prepare and issue a report on the state of the environment in Zanzibar.
- viii. Tackle immediate environmental problems and stimulate others to action for environmental protection.
- ix. Promote awareness of, and training in, environmental management discipline.
- x. Coordinate the implementation of Regional and International Conventions and Protocol related with environmental issues whereas the United Republic of Tanzania has ratified.
- xi. Coordinate the development and implementation of climate change programs (preparedness, mitigation and adaptation)

To fulfil the above stated functions, the institution responsible for day to day environmental management activities in Zanzibar needs to be empowered and supported locally and internationally.

5.2.3 Environmental related Committees

Environmental Management Committees such as Climate Change and Integrated Coastal Zone Management Committees will be established at National, District and Shehia levels. The Committees will be a fundamental source of stakeholder's inputs to enable Ministry responsible for environment to achieve sustainable and sound management of environment of Zanzibar. The role of the multi-sectoral environmental management committees at the national level will be to provide policy guidance and technical inputs while the role of committees at District and Shehia levels will be to develop, implement and monitor environmental management and climate change related programs and plans for ensuring protection, conservation and utilization of natural resources; and mitigation and adaptation of climate change impacts.

5.3 Roles of key stakeholders

The implementation of the environmental policy must involve a wide range of stakeholders operating in different sectors and at different levels that include key stakeholders such as Government Institutions, Civil Society Organizations, Community-Based Organizations, and Faith Based Organizations. The local and international donor community with the solid support of the private sector are crucial to the successful achievement of highlighted objectives of the policy. The policy will only be able to function

efficiently and effectively if it does not cease to recognise the roles and responsibilities of all stakeholders involved and fosters effective partnerships for improvement of our environment.

All government, private and civil society organisations are required to mainstream environmental issues in carrying out their day to day activities and functions of the respective organization. Highlighted roles and responsibilities for specific institutions are as follows:

5.3.1 Institution responsible for Water

Ministry responsible for water resources management and supply will implement some of the strategies of this policy and in particular the protection of water resources and catchments, sustainable uses of water, rainwater harvesting and promotion of clean and safe water supply.

5.3.2 Institution responsible for Non Renewable Natural Resources

The Ministry Responsible for Non renewable Natural Resources will implement this policy in all areas related to the management of non renewable natural resources. The implementation focus will be on procedures and the implementation for quarrying of different non renewable natural resources, rehabilitation of quarry sites, promotion of the use of alternative materials to non renewable natural resources and raising awareness on rationale uses of this type of resources.

5.3.3 Institution responsible for Tourism

The role of the institution responsible for tourism will be to promote eco-tourism, mainstreaming of environmental and social assessment in the tourism projects and implement tourism zoning plan.

5.3.4 Institution responsible for Energy

In the implementation of this policy, the institution responsible for energy will be responsible for promotion of reliable, renewable and affordable sources of energy, public awareness on efficiency use of energy. Furthermore, the Institution will be responsible for promotion of national environmental capacity to deal with oil and gas exploration and production.

5.3.5 Institution responsible for Fisheries and Marine Resources

Ministry responsible for Fisheries will implement some of the strategies in this policy, in particular the management of marine resources and ecosystem. This includes the rehabilitation programs and activities for degraded ecosystems as well as monitoring and assessing the status of marine protected habitats.

5.3.6 Institution responsible for Forestry

The Ministry responsible for Forestry will implement this policy in all areas related with the forestry and mangrove management and its associated biodiversities. Specifically the Ministry will deal with the enhancement of fuel wood production through tree planting programs, promotion of conservation and protection of terrestrial

ecosystem, restoration of terrestrial degraded ecosystems and raising of public awareness of sustainable uses of forestry resources.

5.3.7 Institution responsible for Regional administration and Local governments

The Ministry responsible for Regional administration and local governments is responsible for local population at the Regional, District and Shehia levels as well the local authorities of Zanzibar (e.g. Municipal, Town and District Councils). In the implementation of this policy, the Ministry will ensure full participation of the local communities in the development and implementation of community environmental management plans toward sound management of natural resources for their sustainable livelihoods.

Furthermore, the Ministry through local authorities will be responsible for development and implementation of local environmental action plan, promotion and implementation of proper and appropriate waste and sanitation management system as well as constructing, operating and maintaining environmental infrastructures.

5.3.8 Institution responsible for Health

The Ministry responsible for Health will implement this policy specifically with strategies related to the provision of public awareness on environmental health and HIV/AIDS, enhancement of

proper handling and managing hazardous substances and hospital wastes.

5.3.9 Institution responsible for Agriculture and Livestock

In the implementation of this policy, the Ministry responsible for Agriculture will carry out the strategies related to the handling and management of hazardous substances (agrochemical and pesticides), mainstreaming of environmental and social consideration into agricultural and irrigation scheme programs, promotion of organic farming and rainwater harvesting and implement national land use plan. On the other hand, the Ministry responsible for livestock will promote development of livestock industry in Zanzibar in an environmental friendly manner.

5.3.10 Institution responsible for Lands

The Ministry responsible for entire land management, which include issue of urban and rural planning, will have responsibility in the implementation of this policy particularly in the strategies related with the development, implementation and enforcement of Land Use Plan(s), physical and master plans at all levels with environmental and social consideration (National, District and Shehia levels).

5.3.11 Institution responsible for Investments, Industries and infrastructures

The Ministry responsible for investments, industries and infrastructures development will ensure all investment, industries and infrastructures development projects are not established unless the implementation of the strategies of this policy related with Environmental and Social Impact Assessment are properly considered.

5.3.12 Institution responsible for Disaster Management

Ministry responsible for Disaster Management will implement the strategies of this policy to ensure national disaster preparedness and management response incorporating issues of environmental health problems, destruction of natural environment and potential hazards.

5.3.13 Institution responsible for Gender and Vulnerable groups

Ministry responsible for gender and vulnerable groups assists the implementation of this policy through the building the capacity of women, poor and other vulnerable groups to participate in the environmental management related programs and plans.

5.3.14 Institution responsible for Education and Academia

Ministry responsible for Education promotes public awareness through education curriculum, therefore, the Ministry responsible for Education will implement this policy in the area of incorporating environmental issues in the school curriculum at all levels for

protecting and conserving terrestrial and marine biodiversity and supporting sustainable use of natural resources. Universities and other academic institutions are mandated to promote environmental researches that will contribute to the development of the state of environment and environmental decision through provision of update and scientific information.

5.3.14 Civil Society Organizations and Private Sectors

Civil Society Organizations and Private Sectors have ability to mobilize communities and resources, which are useful in supplementing government efforts in the management and conservation of environments. These Organizations have an advantage of being effective at community level and therefore, their roles in the implementing of this policy will include the followings:

- i. Promote public environmental awareness, empowerment, and participation.
- ii. Develop, support and implement environmental management activities in their respective areas and localities.
- iii. Advocate for proper implementation of environmental related policies and legislations.
- iv. Promote environmental information sharing and networking.

5.3.15 Media

The Media play important roles for delivering environmental information to the public. In order to attain effective and efficient

implementation of public awareness related strategies of this policy, the media both from Government and Private will ensure airtime and space are made available for delivering environmental related information for increasing public awareness and participation.

5.3.16 Development partners

Sound and sustainable environmental management needs strongly support and participation from development partners both bilaterally and multilaterally. Implementation of this policy needs human, financial, technical and material resources from Government, private, communities and development partners. Therefore, the role of development partners in the implementation of this policy is to provide appropriate financial and technical support for sound and sustainable environmental management.

CHAPTER 6: MONITORING AND EVALUATION

The overall objective of Zanzibar Environmental Policy is to pave the way for the environmental management, such that the natural resources capacity shall sustain development and maintain the rich environmental endowment for the present and future generations. Therefore, this policy constantly remains as a major contributor and safe guards to poverty reduction efforts. In this context the monitoring and evaluation of this policy will have to be consistent with the Monitoring and Evaluation (M&E) framework as designed under the ZSGRP. However, the responsibility for compiling, monitoring and evaluating reports falls in the hands of the institution responsible for day to day environment management. Such reports and assessments of the environmental situation shall be used to advise the Government and all other stakeholders accordingly.

The National Environmental Management Action Plan for Zanzibar (NEAP) will be developed based on the policy statement and strategies outlined in this policy. The plan will be developed through the consultative process and definition of prioritized programmes, activities, expected outputs, indicators, implementing institutions, budgets and time frame for the implementation. The plan will be updated regularly (whenever it is required by developments in the environmental sector) and form a base for monitoring and evaluation

of the implementation of the policy Therefore, M&E activities associated with this Environmental Policy will be designed to monitor and assess the implementation process as well as the impact of the Policy based on the Action Plan developed for this Policy. Monitoring and evaluation will be carried out at all levels; National, District and Shehia levels.

The approach to monitoring and evaluation will be guided as follows:

- i. Adherence to the implementation strategies that will be set up in environmental programme in respect to time frame, financial requirements, and attainment of actions.
- ii. Conduct regular field visits to monitor the implementation strategies and activities towards achieving the policy objectives and targets.
- iii. Annual evaluation of the impact of the work plan and strategic action plans that draws on information obtained from the compiled activity monitoring data, the assessed key performance indicators, strategically focused studies.
- iv. Monitoring of the environment and regular publication of the State of Environment Report.
- v. Performance of various actors at national, sub-national and grass root level in relation to fulfilling their mandate, executing their roles and responsibilities and effectiveness of

their plans and activities in delivering services and attaining the stated policy goals and objectives.

- vi. Updating or revising the National Environmental Action Plan, NEAP, whenever it is required by developments in the environmental sector.