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TANZANIA

ECOLOGICALLY SUSTAINABLE INDUSTRIAL DEVELOPMENT

**A strategy for the implementation of an Ecologically Sustainable
Industrial Development programme for Tanzania**



The Government of Tanzania



United Nations Industrial Development Organisation

TANZANIA

ECOLOGICALLY SUSTAINABLE INDUSTRIAL DEVELOPMENT

(A strategy for the implementation of an Ecologically Sustainable Industrial Development
programme for Tanzania)

January 2002

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ECOLOGICALLY SUSTAINABLE INDUSTRIAL DEVELOPMENT

TANZANIA – MAINLAND

PROJECT DOCUMENT

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LIST OF ABBREVIATIONS

ALAF	Aluminium Africa
CDM	Cleaner Development Mechanisms
CEEST	Centre for Energy, Environment, Science and Technology
CPC	Cleaner Production Centre
CPCT	Cleaner Production Centre of Tanzania
CTI	Chamber of Trade and Industry
DOE	Division of Environment
EIA	Environmental Impact Assessment
EMS	Environmental Management System
EPI	Environmental Performance Indicators
EPZ	Export Processing Zone
ESID	Ecologically Sustainable Industrial Development
GDP	Gross Domestic Product
GHGs	Greenhouse Gases
IC	Implementation Committee
ILFEMP	Institutional and Legal Framework for Environmental Management Project
IRA	Institute for Resource Assessment
MIT	Ministry of Industry and Trade
NEMC	National Environmental Management Council
NEP	National Environmental Policy
NGO	Non Governmental Organisation
PC	Project co-ordinator
PCBs	Poly-chlorinated biphenyls
PM	Project Manager
POPs	Persistent Organic Pollutants
PS	Permanent Secretary
R & D	Research and Development
SC	Steering Committee
SICATA	Small Industries, Consultancy and Training Assistance
SIDA	Swedish International Development Agency
SIDO	Small Industries Development Organisation
SIDP	Sustainable Industrial Development Policy
SME	Small and Micro Enterprises
SWOT	Strength, weaknesses, opportunities and threats
TBS	Tanzania Bureau of Standards
TCCIA	Tanzania Chamber of Commerce, Industry and Agriculture
TIC	Tanzania Investment Centre
TIPER	Tanzanian and Italian Petroleum Refinery
TIRDO	Tanzania Industrial Research and Development Organisation
TOR	Terms of Reference
UNIDO	United Nations Industrial Development Organisation
VPO	Vice President's Office

1. BACKGROUND

1.1 What is Ecologically Sustainable Industrial Development

Earlier models for development relied on forms of exploitation of both human and natural systems. It has now become widely accepted that development and the environment are inseparable and that the one is interdependently connected to the other. At its core, sustainable development seeks to open a path by which economic development can progress, whilst simultaneously enhancing human development and ensuring the long-term viability of those natural systems on which that development depends. Economic growth and effective environmental protection are closely interlinked and should not be looked upon as competitive policy or societal objectives.

The concept of Ecologically Sustainable Industrial Development (ESID) was defined by the UNIDO Conference on Ecologically Sustainable Industrial Development to mean *those patterns of industrialisation that enhance economic and social benefits for present and future generations to meet their own needs and without impairing basic ecological processes*. The definition recognises that to achieve ESID, industrial development should meet three basic criteria:

1. Eco-capacity – the capacity of ecosystems to continue to function despite pollution;
2. Efficiency – the most efficient conversion of human, material and energy resources into industrial outputs; and
3. Equity – the equitable distribution of environmental burdens as well as the outputs of industrialisation across nations, segments of society and generations.

In recognition that threats to the environment are of common concern, international co-operation between all countries, and in particular between developed and developing countries, was seen as essential to acquiring and using relevant scientific information and environmentally sound technologies globally. Industrialised countries with significant experience in pollution prevention. Cleaner Production methods and pollution control technologies were encouraged to promote industrial pollution prevention and management worldwide.

Economic well-being is essential for achieving sustainable development and minimizing the degradation of the environment concomitant with such growth. Co-operation is required at the local, national and regional levels in using existing and, where necessary, establishing new mechanisms that promote pollution prevention, waste minimization, Cleaner Production, energy efficiency and rational use of natural resources and in making these techniques and technologies available, particularly to developing countries. However, it was also recognized that new and additional financial resources will have to be channelled to developing countries in order to ensure their full participation in global efforts for environmental protection.

ESID challenges countries to move from the rhetoric into actionable implementation programmes, plans and projects.

1.2 ESID in Tanzania

Tanzania is a developing country, which is amongst the poorest in the world (Box 1). In this context, characterised by poverty and inequity the need for appropriate development for the economic and social upliftment of the people of Tanzania is a national priority. The Tanzanian

Government's Development Vision 2025 places human development as the central objective of development.

In 1996, the Government of Tanzania launched the Sustainable Industrial Development Policy (SIDP) (1996-2020) with the main mission to contribute towards the achievement of the overall national long-term development goals as enshrined in the overall national vision, and to enhance sustainable development of the industrial sector. The main objectives of the policy are: human development; creation of employment opportunities; sustainable economic growth; environmental sustainability; and equitable development.

A number of problems have been recognised which limit Tanzania's success in implementing the SIDP. These include:

- Inadequate capacity and capabilities for policy development and implementation;
- Limited public-private sector consultative mechanisms;
- Inadequate and unreliable information for policy development;
- Lack of SME policy;
- Weak support services for SME and entrepreneurship development;
- Inappropriate legal and regulatory framework for investment promotion;
- Limited capacity to prepare investment projects and negotiate industrial partnerships in the agro-industrial sub-sector with emphasis on food, leather and textiles;
- Inadequate capacity and capabilities to ensure competitiveness and increased productivity; and
- Inadequate capacity and capabilities for waste management, pollution control and cleaner production technologies.

To address these problems an Integrated Programme for Tanzania was initiated. The objective of this programme was to provide support to the Government and the private sector for the implementation of sustainable industrial development; create and enabling environment for private-sector led industrialization; increase productivity and competitiveness in agro-industries; and to promote cleaner production and sound environmental management.

The Integrated Programme for Tanzania consists of six components as follows:

- Component I: Implementation Of Sustainable Industrial Development Policy
- Component II: Development Of Small to Medium Enterprises (SME)
- Component III: Investment And Finance
- Component IV: Productivity, Technology And Competitiveness
- Component V: Environment
- Component VI: Private Sector Development Programme

Box 1: Economic sustainability

Tanzania is one of the poorest countries in the world with approximately 50% of the population living below the poverty line.

The economy is heavily dependent on agriculture, accounting for half of GDP (1998 est.), providing 85% of exports, and employing 80% of the work force (including agricultural processing). Topography and climatic conditions, however, limit cultivated crops to only 4% of the land area. Industry accounts for 17% of GDP and is focused on processing agricultural products and manufacturing light consumer goods. Industry and commerce combined account for 20% of employment. In 2000 exports valued \$937 million. The value of total merchandise exports has, however, been declining since 1996 as a result of declining agricultural exports caused by unfavourable weather conditions. Despite this, agricultural commodities (coffee, cotton, tea, tobacco, cashew nuts, and sisal) remain Tanzania's major exports, accounting for around 56% of total merchandise exports during 1996-1999. Industrial exports have been on the rise following adoption of trade liberalization, and privatization of public enterprises.

The country's natural resources include hydropower, tin, phosphates, iron ore, coal, diamonds, gemstones, gold, natural gas and nickel. Mineral exports account earnings of around US \$ 50 million, but given heavy foreign investments flowing in this sector, it is expected that the value of such exports will increase significantly in the near future. In addition, Tanzania's scenic natural beauty and wildlife provide a major attraction for foreign tourists. Tourism is a booming sector recording earnings of over US \$ 500 million annually.

Despite these natural resources Tanzania remains a net importer of goods and services with imports totaling \$1.57 billion in 2000. Main import commodities include consumer goods, machinery and transportation equipment, industrial raw materials and crude oil.

The challenge therefore lies in promoting development which achieves sustained economic growth, addresses social needs and ensures the sustainable utilisation of the country's natural resources

(A more detailed overview of the industrial sector in Tanzania is provided in Section 2.1)

The component dealing with the environment has focused on the application of cleaner technology in three tanneries and selected textile mills; issues of occupational health and safety practices in the tanning and textile industries; monitoring pollution for Msimbazi River in Dar Es Salaam; and a study on waste management and recycling.

From an environmental perspective it is clear that these components of the Integrated Programme would be greatly enhanced through a project that will address the critical problems that include: inadequate capacities, the prevalence of water, air and land pollution, the lack of a properly capacitated authority in the government administration responsible for environmental policy development and management and insufficient mechanisms for environmental inspection and compliance monitoring. A project to assist with ESID in support of the SIDP and carefully co-ordinated with the activities of the Integrated Programme (Tanzania – Mainland) has been proposed.

Initiatives to promote ESID would be co-ordinated with the activities of the Integrated Programme and most specifically in terms of Component V: Environment. The location of the ESID programme in relation to the other Integrated Programme components and policies in Tanzania is reflected in Figure 1.

1.3 Objective of the project and purpose of this document

The objective of the ESID project will be to provide technical assistance to the Government of Tanzania in developing a nationally applicable, holistic environmental implementation strategy for the industrial sector as well as modalities/approaches to mitigate the problem of pollution. The project will, at its core, aim to support the relevant unit(s) in the Public Sector, in preparing a response to the environmental management requirements of the industrial policy, developing capacity to implement standards for industrial and related emissions; strengthen institutional capacities and relationships with relevant Ministries/units, institutions and stakeholders; develop a regulatory system for enforcement of the policy and strengthen the Departments' capacity to carry out inspections, compliance and ambient environmental monitoring.

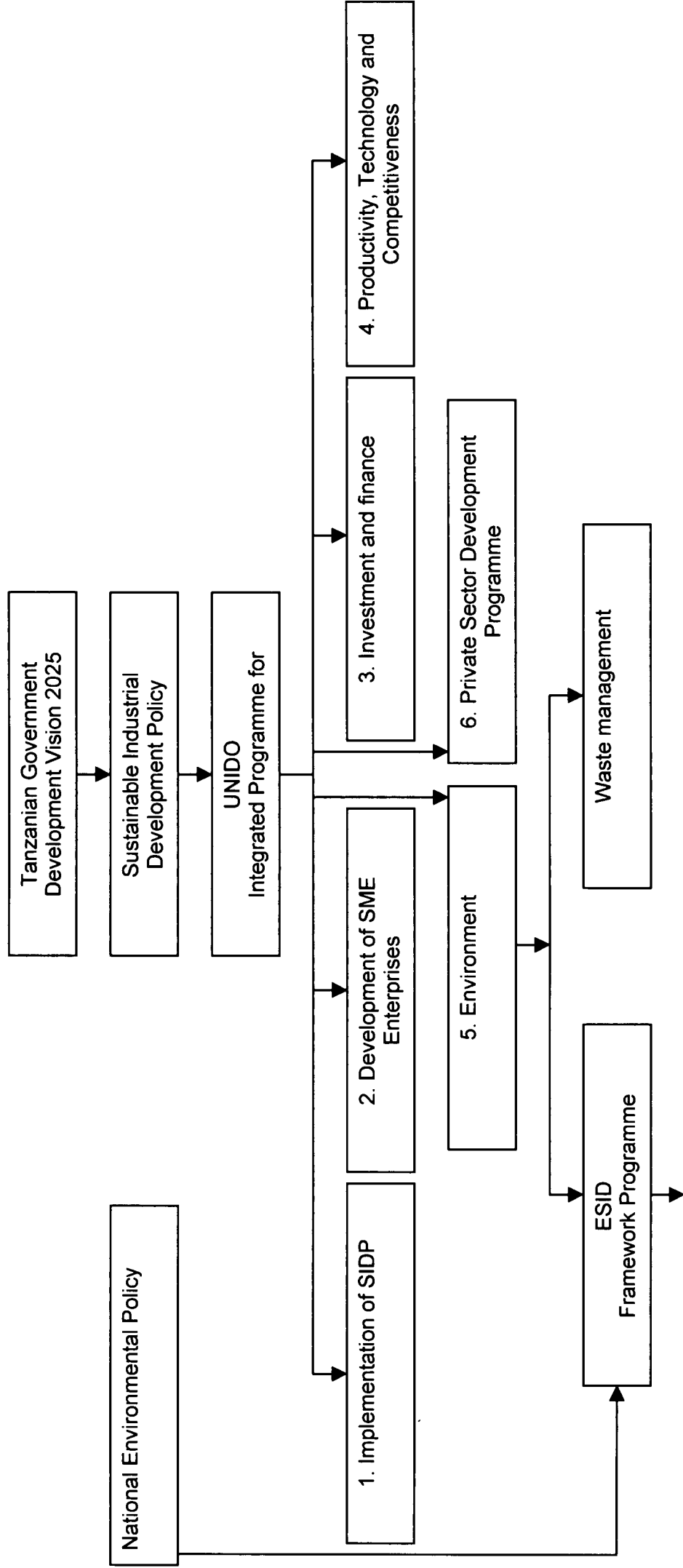
In addition, the project will seek to enhance selected enterprises' capabilities in practicing environmentally friendly options in their production processes and in establishing linkage with institutions such as the "Cleaner Production Center" (CPC).

It will also aim to strengthen the awareness of NGOs and the general public on industrial environmental impacts and to build up and disseminate baseline data on large and small industry in the country and its environmental performance.

The expected project will be complex in view of the various and interrelated sub-projects that are likely to be developed. Therefore, this project strategy document is necessary and provides an overview of the mechanisms that will facilitate a timely and impact-oriented delivery of the project as well as the coordination arrangements. In doing so, this document:

- Sets achievable targets for the ESID project;
- Recognises developments in the sector including global agreements, conventions, norms and standards;
- Outlines the individual sub-projects, targets and outputs of the ESID project;
- Provides an indication of the most appropriate and impact-oriented method of implementation or options;

- Reviews in a programmatic way, the cost of each input, activity and sub-project;
- Reviews the impact of clusters of industries and related activities, including:
 - The impact of the use of fertilizers and pesticides in agricultural and related activities along bodies of water including commercial farming and livestock development;
 - The path of domestic waste and the effluent from factories and enterprises, containing high concentration of especially organic material as well as possible traces on presence of PCB residues, etc;
 - Modalities to enhance industrial development in Tanzania without necessarily increasing water pollution on overall environmental degradation.
- Establishes prior and ongoing assistance in this sector and their relationship to the assignment as well as how the product of this assignment will fit and positively contribute to the Integrated Programme (Tanzania - Mainland);
- Proposes an institutional framework as well as modalities for monitoring and managing the project;
 - Clearly specify the expected impact and end of the project.
 - Preparation of a draft project document for distribution to the stakeholders outlined above and importantly to the donor community;
 - Presentation of the draft project document to the stakeholders and in-depth discussions with the donor community regarding their specific project and programme requirements;
 - Finalisation of the project document;
 - Presentation of project document to UNIDO for their distribution as appropriate.



- Specific project themes
1. Policy and legislative framework
 2. Capacity building and awareness creation
 3. Development of appropriate EA&M tools
 4. Investment in equipment and resources
 5. Cleaner Production
 6. Specific demonstration projects

Figure 1: ESID in relation to other components of the Integrated Programme and industrial and environmental policies in Tanzania

2. SITUATION ASSESSMENT

2.1 The Industrial Sector

2.1.1 Overview

Tanzania's economy is heavily reliant on agricultural exports with cotton, coffee, tea and cashew contributing 70% of export earnings. The declining value of primary commodities in nominal and real terms in the long term indicates a significant economic risk to the ability of Tanzania to realize sustainable development.

Industrial growth in Tanzania declined during the early 1990's (from 1990 to 1994 industrial growth declined by 2% per annum with the most significant decline of 8% realized in 1994). With the restructuring and privatisation of publically owned enterprises, production increased during the latter part of the 1990's when, between 1994 and 1999 there was an average growth of 4% per annum. By 1999, the sector employed about 140,000 people or about 48% of total monthly wage earners, making it the largest urban employer. It remains the most reliable source of government revenue in terms of import sales, corporate and income taxes. Manufacturing export has been in a declining trend, however, it still earns the country 20% of total foreign exchange earnings to become the third most important sector after agriculture and tourism.

The manufacturing sector comprises mainly agricultural processing industries that represent 74% of total industrial output. Food processing, beverages and tobacco industries comprise 70% of this value with the remaining 4% made up from industries such as textiles, clothing, leather and footwear. The second largest industrial sub-sector is the chemical industry which includes petroleum, rubber and plastic (12%). The relative importance of the various industrial sub-sectors is presented in Figure 2. The sub-sectors are described in more detail in Appendix 1.

The importation of manufactured goods into Tanzania exceeds exports. The gap between imports and exports is widening with imports showing an increasing trend while exports remain stable. The Netherlands followed by Ireland and the United Kingdom are the most significant export destinations for Tanzanian goods. Industrial imports are received from Japan, South Africa and the United Kingdom.

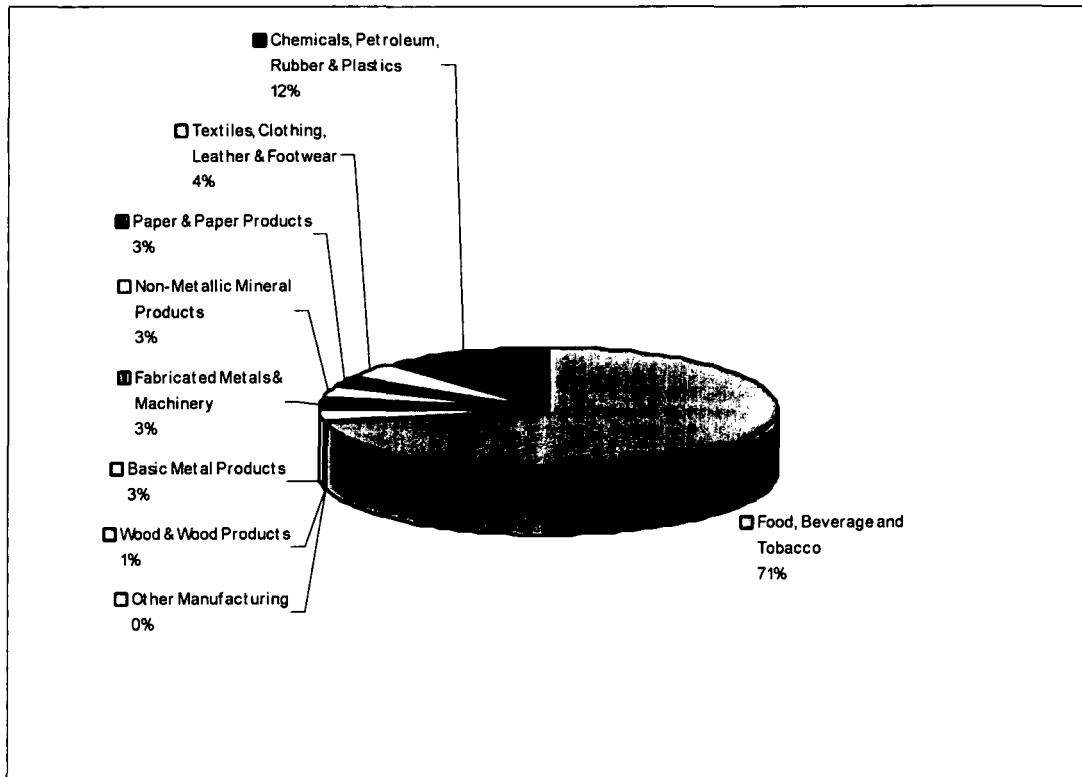


Figure 2: Importance of Tanzania's industrial sub-sectors

2.1.2 Industrial Environmental Performance

Water, air and land contamination (due to inappropriate solid waste disposal), noise pollution and resource use are the most significant environmental impacts associated with the industrial sector in Tanzania. The location of heavy industries – including: Aluminium Africa (ALAF); the Tanzanian and Italian Petroleum Refinery Company (TIPER); and the three cement factories (Dar es Salaam, Tanga, and Mbeya) – in urban areas increases the significance of environmental effects.

Industrial pollution in Tanzania results from the use of dated technologies that are inappropriate and harmful; the lack of awareness on cleaner production technologies; the lack of investment capability in acquiring and diffusing newer and cleaner technologies; the lack of capability to introduce minor changes to the existing technologies; and the lack of a maintenance culture.

In order to address these problems, the Cleaner Production Centre of Tanzania (CPCT) was established in October 1995. The main objective of the CPCT is to facilitate the transfer of technical information, know-how, and cleaner technology from developed and developing countries to industrial enterprises and environmental management agencies in Tanzania, in order to incorporate cleaner production techniques and technologies in industrial pollution reduction programmes. CPCT is a semi-autonomous body within the Tanzania Industry Research and Development Organization (TIRDO) and is managed by experienced national professionals. CPCT serves a coordinating and catalytic role for cleaner production in the country through four main activities:

- Collection and dissemination of information on cleaner production to its stakeholders which include industry, government agencies, NGOs, R&D institutions, and academia;
- Supporting the demonstration of cleaner production techniques and technologies in industry;
- Training industry personnel and government officials on this new area of environmental management; and
- Advising policy makers on the promotion of cleaner production.

Despite the work of the CPCT, the substitution of dated technologies with environmentally friendly technologies involves significant capital investments, therefore, most industrialists have opted for add-on technologies and optimising existing processes rather than replacing technologies with cleaner alternatives.

2.1.3 Industrial Environmental Competitiveness

The *Sustainable Industrial Development and Competitiveness* study that was completed in August 2001 highlights a number of areas that will effect the competitiveness of the industrial sector in Tanzania. Although the study does not indicate that environmental issues are the most significant aspects limiting industrial competitiveness, the current state of industrial environmental management will reduce the opportunities for Tanzanian industries to operate globally.

2.2 Policy and Legislation for Ecologically Sustainable Industrial Development

The Constitution of the Republic of Tanzania was amended in 1984 to provide for the Bill of Rights. Article 9 of the Constitution requires the Government to ensure that national resources are harnessed, preserved, and applied toward the common good. Although this Article is part of the non-judicial "fundamental objective and directive principles of the state policy" provisions of the Constitution, it portrays the commitment of the Government to ensure sustainable development. The Constitution is supported by the Tanzania Government Development Vision 2025. This ultimate goal is supported in industry and environmental matters through the SIDP and the National Environmental Policy (NEP) respectively.

The vision of SIDP is that industrial development in Tanzania over the next two decades will:

- Contribute towards the achievement of the overall national long-term development goals as enshrined in the overall national vision; and
- Enhance sustainable development of the industrial sector

The overall purpose for the NEP is to provide the framework that ensures environmental considerations are brought into the mainstream of decision-making in Tanzania. The objective of the policy includes:

- Ensuring sustainability, security and equitable use of resources for meeting the basic needs of the present and future generations without degrading the environment or risk health or safety.

Sustainable development is thus a key feature of both policy documents. Ecologically sustainable industrial development thus involves consideration of both industrial policy and environmental policy as formalized through the SIDP and NEP. The table below provides a

summary of some of the common policy statements of the SIDP and NEP that can be interpreted to support ecologically sustainable industrial development.

Aspect	Sustainable Industrial Development Policy	National Environmental Policy
Policy Objectives	<ul style="list-style-type: none"> ➤ Contribution to human development and creation of employment opportunities ➤ Contribution to economic transformation for achieving sustainable economic growth ➤ Contribution to equitable development 	<ul style="list-style-type: none"> ➤ To ensure sustainability, security and equitable use of resources for meeting the basic needs of the present and future generations without degrading the environment or risking health or safety ➤ To improve the condition and productivity of degraded areas including rural and urban settlements in order that all Tanzanians may live in safe, healthful, productive and aesthetically pleasing surroundings
Instruments	<ul style="list-style-type: none"> ➤ Enforcement of Environmental Impact Assessment ➤ Development of the market mechanism ➤ Investment promotion policies ➤ Promotion of standards and quality assurance ➤ Monetary, fiscal and labour policies 	<ul style="list-style-type: none"> ➤ Environmental Impact Assessment ➤ Environmental Legislation ➤ Economic Instruments ➤ Environmental Standards and Indicators ➤ International Co-operation
Role of R&D	<ul style="list-style-type: none"> ➤ Recognises the need to develop, consolidate and strengthen basic science research, technology and R&D activities 	<ul style="list-style-type: none"> ➤ Recognises that science and technology can be used to promote environmentally sound technologies.
Role of the Private Sector	<ul style="list-style-type: none"> ➤ The government recognizes the role of the private sector as the principal vehicle in carrying out direct investments in industry 	<ul style="list-style-type: none"> ➤ The private sector, particularly within business and industry can play a major role in reducing the stress on resource use and the environment
Institutional Arrangements	<ul style="list-style-type: none"> ➤ Recognises that crucial players in industrial development to include government, the private sector and allied agencies. ➤ Makes provisions for industrial support institutions and inter-ministerial coordination 	<ul style="list-style-type: none"> ➤ Recognises the role of the government, the private sector and NGOs. ➤ Makes recommendations for effective inter-ministerial coordination
Linking environment to industry	<ul style="list-style-type: none"> ➤ Government will ensure the promotion of environmentally friendly and ecologically sustainable industrial development policy objectives associated with environmental awareness, legal mechanisms for effective environmental management, promotion of investment with anti-pollution programmes, EIA, and integrated preventive environmental strategies for industries. 	<ul style="list-style-type: none"> ➤ The policy objective with respect to environmental protection is the prevention, reduction, control and limitation of damage and minimization of the risk from the generation, management, transportation, handling and disposal of hazardous wastes, other wastes and emissions. ➤ Eight policy objectives will be pursued to manage industry's environmental impacts.

In addition, to these Policies sectoral legislation and international commitments govern environmental regulation in Tanzania. Sectoral legislation is outlined in Table 1 and discussed in more detail in Appendix 2.

Table 1: National Legislation and Institutions Relevant to Environmental Management

Aspect	Legislation	Institutions
EIA	<ul style="list-style-type: none"> ➤ Marine Parks Act, 1994 ➤ Mining Act, 1998 ➤ Draft Proposals for a Bill on the Beekeeping Act, 2000 ➤ NEM Act, 1983 ➤ Antiquities Act, 1964 	<ul style="list-style-type: none"> ➤ National Environmental Management Council (NEMC) ➤ Ministry of Energy & Minerals ➤ Ministry of Natural Resources & Tourism ➤ Ministry of Industry & Trade ➤ Ministry of Agriculture ➤ Ministry of Roads ➤ Ministry of Transport & Communications ➤ Ministry of Education & Culture
Land Use Planning	<ul style="list-style-type: none"> ➤ National Land Use Planning Commission Act, 1984 ➤ Villages Land Act, 1999 ➤ Land Act, 1999 ➤ Town and Country Planning Ordinance, Cap 378 ➤ Antiquities Act, 1964 ➤ Public Lands (Reserved Areas) Ordinance, 1954 ➤ Land Surveys Ordinance, 1957 	<ul style="list-style-type: none"> ➤ Ministry of Lands, and Human Settlements ➤ Land Use Planning Commission ➤ Local Authorities ➤ Ministry of Education and Culture
Environmental Standards	<ul style="list-style-type: none"> ➤ National Environmental Management Act, 1983 ➤ Tanzania Bureau of Standards Act, 1975 ➤ Water Utilization and Control Act, 1974 	<ul style="list-style-type: none"> ➤ Tanzania Bureau of Standards ➤ Central Water Board ➤ NEMC ➤ Government Chemist Department ➤ Ministry of Industry & Trade ➤ Cleaner Technology Centre ➤ TIRDO ➤ TISCO
Pollution Control & Management	<ul style="list-style-type: none"> ➤ Public Health Act ➤ (Sewerage & Drainage) Ordinance Cp. 336 ➤ Dares Salaam Water & Sewerage Act, 1981 ➤ Water Utilization & Control Act, 1974 ➤ Local Government Act, 1982 ➤ Penal Code, Cap. 16 ➤ Plant Protection Act, 1997 ➤ NEM Act, 1983 (s.7) 	<ul style="list-style-type: none"> ➤ Local Governments ➤ Central Water Board ➤ Dar es Salaam Water & Sewerage Authority ➤ Ministry of Agriculture ➤ Principal Water Officer & Basin Water Officers ➤ Ministry responsible for Transportation ➤ Ministry of Health ➤ Director of Public Prosecutions
Investments & Industrial Development	<ul style="list-style-type: none"> ➤ Tanzania Investment Act, 1999 ➤ NEM Act, 1983 ➤ National Industrial Licensing and Registration Act 	<ul style="list-style-type: none"> ➤ Tanzania Investment Centre ➤ Sector Ministries ➤ Industrial Licensing Board
Consumer Protection & Human Health	<ul style="list-style-type: none"> ➤ Fair Trade & Practices Act, 1994 ➤ Food Control of Quality Act, 1978 ➤ Pharmaceuticals and Poisons Act, 1978 	<ul style="list-style-type: none"> ➤ Tanzania Bureau of Standards ➤ National Food Control Commission ➤ Commissioner of Trade and Practices ➤ Chief Factories Inspector ➤ Chemical Government Laboratory Agency ➤ Local Governments
Hazardous Chemicals & Pesticides	<ul style="list-style-type: none"> ➤ Protection from radiation Act, 1983 ➤ Pharmaceuticals & Poisons Act, 1978 ➤ Explosives Act, Cap 538 ➤ Tanzania Bureau of Standards Act, 1975 ➤ Plant Protection Act, 1997 ➤ East Africa Customs Management Act, 1952 	<ul style="list-style-type: none"> ➤ Ministry of Agriculture ➤ National Radiation Commission ➤ Chemical Government Laboratory Agency ➤ Tanzania Bureau of Standards ➤ Industrial Licencing Board ➤ Ministry of Energy & Minerals ➤ Commissioner of Customs
Local Authorities & Regional Administration	<ul style="list-style-type: none"> ➤ Local Government (District Authorities) Act, 1982 ➤ Local Government (Urban Authorities) Act, 1982 ➤ Local Government (Finance) Act, 1982 ➤ Regional Administration Act, 1977 	<ul style="list-style-type: none"> ➤

2.3 Institutional structures, capacity and competency for Industrial Environmental Management

The responsibility for environmental management sits within the Vice-President's office (VPO) (Figure 3) of the Tanzanian government. The VPO recognizes two bodies with responsibility for environmental issues, the National Environmental Management Council (NEMC) and the Division of Environment (DoE). In practice, there is overlap in the mandate of NEMC and DoE. This has created confusion over roles and responsibilities for environmental management at the highest level. In addition, NEMC although established through an act of parliament does not currently have regulatory powers. Both bodies are guided in their activities by the National Environmental Policy and National Environmental Action Plan.

Apart from the two bodies under the VPO, there are a number of other sectoral ministries that have direct responsibility for environmental resources. These include:

- Agriculture & Food Security
- Energy & Minerals
- Lands & Human Settlement Development
- Natural Resources & Tourism
- Water & Livestock Development
- Works

Associated with the ministries are a number of government bodies and parastatal organizations that are also involved in environmental management.

In the absence of a consistent approach from the VPO's office and the lack of framework environmental legislation, these Ministries have initiated their own processes and legislation to govern environmental resources. This has led to an overall government response that is neither integrated nor holistic.

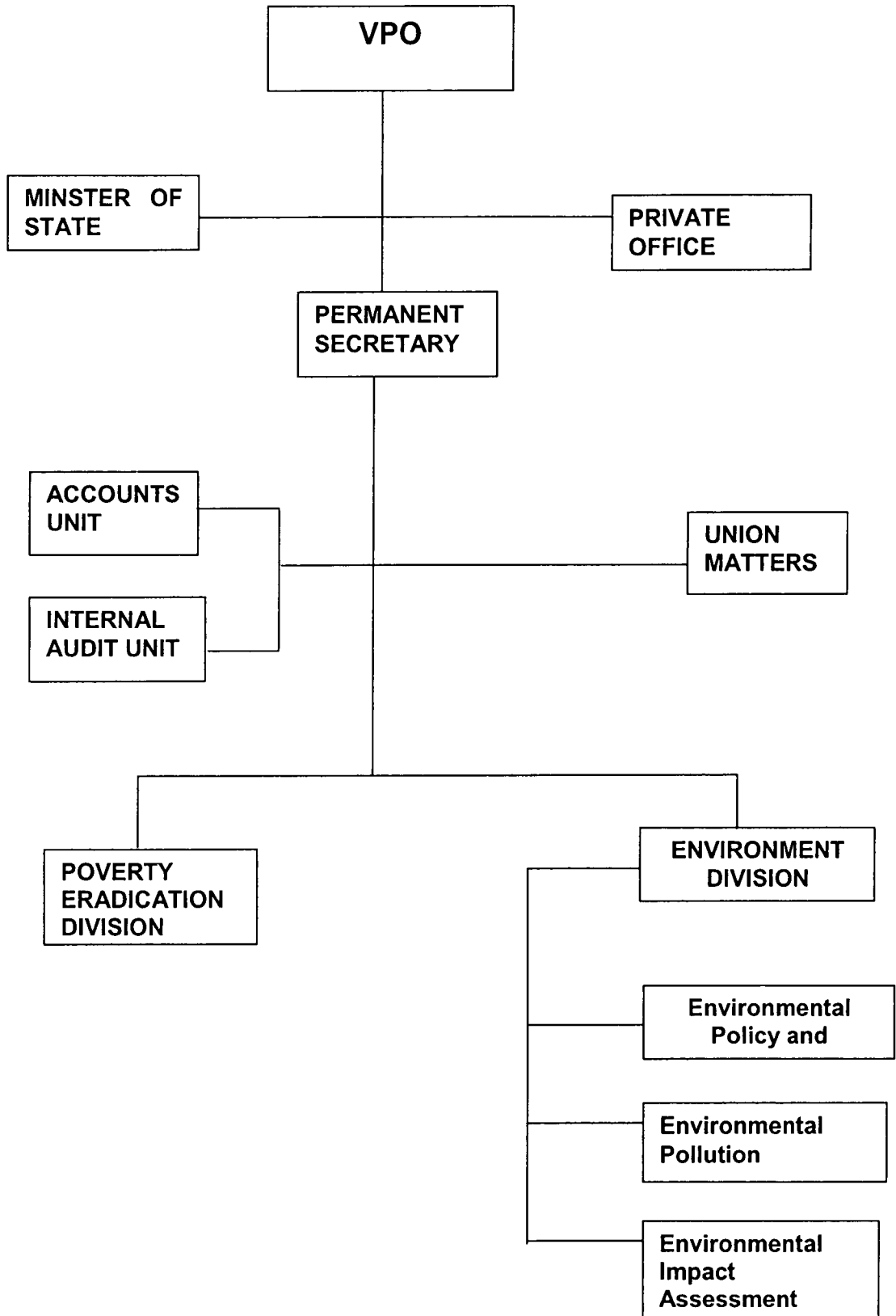


Figure 3: Organisational Structure for the Vice-President's Office

2.4 Stakeholders and roleplayers

It is widely accepted that environmental management is everybody's responsibility. As stated in the National Environmental Policy 1997 and concretised by Development Vision 2025 the local communities as well as business entities have the responsibilities of planning, implementing programmes / projects that are reflecting their needs and fostering efficiency in resource utilisation including reuse, recycling and reduction of waste. In addition the private sector has the role of participating in different forum including policy and legal formulation processes related with environmental management.

In Tanzania, NGOs have played an important role in managing the environment and spearheading development programmes. NGOs typically render technical support to community-based projects. They are familiar with community problems, needs, and solutions. They also assist communities in interpreting laws and regulations. Most of the NGOs functions are uncoordinated. In addition, most NGOs lack the necessary capacity to manage their activities.

Some of the NGOs active in Tanzania are listed below, together with their location and activities:

- Action Oriented
 - Lawyers' Environmental Action Team (LEAT), Dar es Salaam: Environmental litigation, lobbying of environmental laws for enactment /amendment.
 - Tanzania Environmental Society (TESO), Dar es Salaam: Environmental education and public awareness, soil conservation, afforestation, sustainable agriculture, land use, watershed management, networking, etc.
 - Journalists Environmental Association of Tanzania (JET), Dar es Salaam: Dissemination of environmental news, investigation on environmental deterioration, etc.
 - Tanzania Wildlife Conservation Society (TWCS), Dar es Salaam: Awareness creation, anti-poaching, conservation activities, and general initiatives.
 - Malihai Clubs of Tanzania (MCT), Arusha: Environmental education, information dissemination, and tree planting.
- Research Oriented
 - Centre for Energy, Environment, Science & Technology (CEEST), Dar es Salaam: Research on energy, environmental science and technology issues, natural resource use and management, etc.
 - Economic & Social Research Foundation (ESRF), Dar es Salaam: Research on economic, social and development issues.
 - Research on Poverty Alleviation (REPOA), Dar es Salaam: Conducts research on the informal sector, employment trends, poverty alleviation, environment and development trends.
- Community Based NGOs
 - Laramatak Development Organization: Monduli, community based conservation, pastoral rights, etc.
 - Nyambimbi Economic Group: Bariadi, afforestation, soil conservation, etc.
 - Tanzania Tree Planting Foundation: Handeni, tree planting and environmental conservation.
 - Pollution Control Association (POCA): Dar es Salaam, collection of garbage, manufacturing garbage collection facilities, etc.

2.5 Prior and ongoing financial assistance

Environmental management has received more attention from donor agencies than any other sector in Tanzania due to its importance to the rest of the economy. Donor agencies contributing financial and technical resources are: DFID; ICUN, GEF; WWF; FAO; WB; USAID; UNDP; UNEP, CARE, as well as Governments of Finland, Norway, Denmark, the Netherlands and Sweden.

Funded projects have focused on:

- Government capacity building
- Assistance in the development of implementation strategies for policies and programmes
- Development of regulatory systems and enforcement mechanisms
- Support of environmentally friendly production processes and environmental management
- Strengthening the involvement of NGOs and the public on environmental issues and management
- The establishment and dissemination of baseline data on large and small industry and its environmental performance as well Tanzania's natural resources

More detailed descriptions of these projects are outlined in Appendix 3.

2.6 Environmental Management Practices

2.6.1 *Environmental Impact Assessment (EIA)*

EIA is not a new concept in Tanzania. A number of limitations in the Tanzanian EIA process have, however, been identified, including:

- Quality of Terms of Reference (TOR): often, EIAs are inadequate because of insufficiently detailed and clear TOR. The TOR for EIA must be of good quality, practical and, for major EIA studies, should be generated during the scoping period so as to ensure focus on important issues.
- Screening and Scoping: The Tanzanian experience emphasises that screening is important, especially for those types of projects likely to require further assessment, and can help avoid or reduce the collection of data irrelevant to impact prediction.
- EIA studies undertaken in Tanzania rely heavily on international consultants and expatriate experts. Capacity development for preparation of Environmental Assessments is needed in Tanzania.

EIA guidelines have been developed for Tanzania. Due to the lack of framework environmental legislation, however, the guidelines have not been formally written into legislation and are, therefore, not a requirement for project approval. Capacity to administer the EIA process is a key constraint to effective implementation of the guidelines particularly as the documents identify a significant number of activities that require EIA and as all EIA's are reviewed at the National level.

2.6.2 Environmental Management Systems (EMS)

Environmental Management Systems have only been implemented in four Tanzanian industries (December 2001). Training programmes have been initiated in Tanzania and a number of industries, government officials and NGO's have attended the courses.

2.6.3 Monitoring and Auditing

The capacity to monitor and audit the impacts of industrial development projects in Tanzania is very limited. This is due to a lack of qualitative and quantitative data on either environmental quality or industrial impacts, limited funding allocated for monitoring and auditing activities and capacity constraints of skilled staff and adequate technology to undertake the monitoring. Further to these constraints there is no dedicated environmental laboratory to support monitoring activities. The Tanzanian Bureau of Standards, in conjunction with key stakeholders, is in the process of developing environmental standards (particularly for water quality).

As a result environmental monitoring is *ad hoc* and there is limited potential for regulating environmental impacts and the activities of industries.

3. SWOT ANALYSIS

The SWOT analysis identifies the strengths, weaknesses, opportunities and threats for Tanzania to initiate ecologically sustainable industrial development.

<p style="text-align: center;">STRENGTHS</p> <ol style="list-style-type: none">1. Commitment to environmental issues in the Tanzanian government;2. Strategic location of key environmental authorities in the VPO;3. Good academic skills base through the Universities4. Well-established environmental networks.	<p style="text-align: center;">WEAKNESSES</p> <ol style="list-style-type: none">1. Unclear institutional structures and environmental responsibilities;2. Limited infrastructure to implement environmental monitoring and auditing activities;3. No environmental quality database;4. Capacity in environmental enforcement is limited;5. Environmental quality standards and guidelines not yet published;6. Industries have limited understanding of environmental issues and do not invest in environmental improvements.
<p style="text-align: center;">OPPORTUNITIES</p> <ol style="list-style-type: none">1. Already established Cleaner Production Centre;2. Industrial expansion strategy supported;3. High demand for environmental capacity development;4. Recognition of environmental issues within wide stakeholder group.	<p style="text-align: center;">THREATS</p> <ol style="list-style-type: none">1. Framework environmental legislation is not in place;2. No regulations to support environmental enforcement;3. Funding mechanisms for environmental activities are not sustainable;4. EIA process is unwieldy and will be difficult to regulate;5. Centralised environmental capacities resulting in reduced activities in the regions.

4. PROJECT RATIONALE, AIMS AND OBJECTIVES

Environmental degradation resulting from unregulated industrial development is acute in Tanzania. This is evidenced in access of the general public to water resources becoming limited in and around industrial sites, air pollution affecting the health of people and the indiscriminate disposal of industrial waste. Regulation of the industries causing the environmental degradation is limited to *ad hoc* activities in response to public outcry. The responses are further constrained by insufficient regulatory authority.

As Tanzania seeks to increase its industrial base, the problems are likely to become more acute.

4.1 Problems to be addressed

4.1.1 Capacity Limitations

Several capacity building initiatives in the field of environmental assessment and management in Tanzania have been funded over the past decade. Some of these capacity building activities are directly relevant to promoting future ecologically sustainable industrial development. However, there is a serious need to continue the process of awareness creation of general environmental issues related to industrial development and capacity building in the implementation of environmental assessment and management tools (e.g. EIA, EMS, monitoring etc).

Integration of environmental issues at the policy and planning level is essential to creating a platform for ecologically sustainable development. However, the capacity of the National Environmental Departments to influence industrial policy formulation and landuse planning is limited. Local Authorities have an increasingly important role to play in the facilitation of ecologically sustainable industrial development. However, capacity to administer environmental impact assessments and other environmental management processes is extremely limited.

The majority of EIA studies undertaken in Tanzania rely heavily on international consultants and expatriate experts. Capacity development for preparation of EIAs is thus needed in Tanzania. The capacity to monitor and audit the impacts of industrial development projects is also limited. This is because there is lack of adequate quality data, little money is allocated for monitoring, severe capacity constraints (skilled staff) exists and technology to undertake the monitoring is inadequate.

In light of the above, there are four main areas where capacity building needs to be reinforced to support the ESID programme. These are:

1. **National Government:** to support the integration of sustainability into policies and plans and the development of appropriate tools for environmental assessment and management e.g. EIA, EMS, monitoring.
2. **Local Government:** to facilitate the integration of environmental considerations into the decision-making process for future industrial development and to build local EIA administrative capacity.
3. **Industrial Sector:** to increase the awareness of environmental issues related to the industrial sector and an awareness of the costs and timeframes involved in integrating environmental issue into the development cycle.
4. **Local EIA consultancies:** to develop local environmental assessment and management capacity so that EIA can be undertaken by local experts.

The country needs human resource development that helps in environmental management implementation. The development should be problem focused and develop competencies that are capable of adapting to cope with increasingly complex environmental management issues. The capacity should not only be developed within the national authorities but must be built in regional and local level government to ensure that environmental policies and plans can be implemented at all levels of governance.

Training should form the cornerstone of capacity development. The training must be supported with on-the-job practical implementation projects. This will ensure that conceptual knowledge is enforced with practical experience.

In order to ensure that the capacity building programme is in itself sustainable the following principles should apply to all capacity building courses:

1. Training courses should be presented in Tanzania where a large numbers of people can benefit from the course rather than sending individuals to foreign countries at great expense.
2. All courses that are developed should be integrated into similar existing courses at the University of Dar Es Salaam
3. At least one local expert should be included on the team to compiled the training material and to present the course.
4. Methods of self funding course should be investigated
5. University courses should be strengthened by funding external lecturers to present courses for 2 to 4 year periods rather than sending individuals on courses in Europe.

4.1.2 Policy formulation and institutional arrangements

The number of sectoral laws and regulations that pertain to environmental issues suggests that there is the possibility of gaps or overlaps. The regulation of atmosphere pollution is one such oversight. The environmental framework policy should be finalised. Effective institutions and a sound policy framework are essential to provide an enabling environment for ESID in Tanzania. The various policies and regulations of the different authorities should be carefully reviewed to determine their significance to environmental management. LEAT have prepared a similar document, however, the ESID programme should concentrate their efforts on the implications for the industrial sector.

The lack of clarity regarding roles and responsibilities requires urgent resolution. The ILFEMP process is doing this, however, the ESID programme should focus on the industrial sector. In considering the institutional setting for ESID, institutions within both government and the private sector must be considered. Presently, the Vice President's office and the Ministry of Industry and Trade manage environmental matters and industry and trade issues, respectively. Within the private sector, bodies such as the Tanzania Chamber of Commerce, Industry and Agriculture and the Confederation of Tanzania Industries exist as representatives of industry.

In order to support ESID, there are four broad institutional issues that should be considered:

- Institutional arrangements to support ESID within the government departments;
- Relationship between government departments on industry, trade and environment;
- Institutional arrangements to support ESID within the private sector; and
- Relationship between government and the private sector.

There are institutional structures, both formal and informal that address these issues but the effectiveness of these structures is constrained by a number of factors including:

- The roles of Division of Environment, NEMC and Natural Resource Ministries in environmental management are not clearly defined;
- There is weak recognition of environmental issues in industry and trade development (e.g. SME development and international trade agreements);
- There are insufficient consultative mechanisms within and between government departments (e.g. no formal forums for regular consultation on industry and the environment);
- The devolution of environmental management responsibility to local government is poorly defined and there are few resources allocated to assist local governments meet their responsibilities;
- There is insufficient environmental science and technology research and development to support industry (TIRDO, CPCT and CEEST provide support but there is little industry application of the research); and
- The relationship between government and industry has been more regulatory than supportive.

Aspects concerning the capacity of these institutions and awareness of environmental issues are addressed elsewhere in this report.

In considering the policy framework, one is bound by the laws and regulations of the Tanzanian government. The policy framework also extends to the international agreements ratified by the Tanzanian government and internal policies established within the private sector. The main policies relevant to ESID are the SIDP and the NEP. These policies have been developed within the context of the Constitution of the Republic of Tanzania, 1984. In addition to these policies, many of the international and sectoral policies have bearing on ESID. In order to successfully integrate environmental management with industrial development, a number of issues must be addressed including:

- Development of legislation to enact the National Environmental Policy;
- Alignment of sectoral policies with framework environmental policy;
- Preparation of national policy to give force to ratified international environmental agreements;

- Development of legislation to give force to environmental management instruments such as environmental impact assessment (EIA), environmental monitoring and regulation, and environmental incentive schemes;
- Lack of environmental input into industry and trade policy.

In the light of these constraints to an enabling institutional and policy environment for ESID, a number of interventions are necessary to improve institutional effectiveness.

4.1.3 Environmental Assessment and Management

The umbrella Environmental legislation must be finalised. On the basis of this finalisation the EIA guidelines should be refined and prepared as regulations, environmental standards (emission and ambient) finalised, and environmental implications of industrial development. The latter should include elements of environmental auditing and compliance assessment, waste management audits and general environmental monitoring.

4.1.4 Environmental Information System

There is currently no integrated holistic and agreed database of environmental information in Tanzania. This inhibits the ability to both regulate and/or support industry finding their environmental management effects.

An industrial audit should be undertaken to develop an information base on the awareness of industry for environmental issues. The survey should consider issues such as technologies in use, whether EMS has been implemented, emissions and effluents, waste disposal processes etc. The information should be initially analysed as a basis from which industrial discharge standards, environmental monitoring and CPC support can be conducted. Environmental performance indicators should be developed as an end product of the audit and used for ongoing assessment and support for the improvement of industrial environmental performance.

4.1.5 Environmental monitoring

There is no systematic and sustained monitoring effort for ambient environmental quality in Tanzania. In the absence of this information it will be difficult to establish whether a particular industrial event has impacted on environmental quality or not. In order to implement a sustainable monitoring programme, a national environmental laboratory should be established. The laboratory should support environmental monitoring programmes on land, air pollution and particularly water pollution. In addition to laboratory facilities, field equipment should be purchased and training undertaken to ensure its utilisation in the field.

4.1.6 Awareness raising

There are a number of environmental NGO's in Tanzania, however, the general understanding of the public for environmental issues is limited. Mechanisms for public involvement in environmental issues should be undertaken. Awareness raising could take the form of schools programmes, media campaigns etc. Additionally, the awareness of the industrial sector to environmental issues is limited. A CPC linked campaign to raise awareness is necessary. The campaign should take the form of workshops, seminars, training programmes etc.

4.2 Aims and objectives

Ecologically sustainable industrial development in Tanzania means:

Promoting industrial growth and advancement without compromising the natural resource base and social structures on which that growth depends.

The aim and end situation of this project, is to:

Have in place the environmental management and technology support structures for ecologically sustainable industrial development, sustained through a competent and well-resourced institutional arrangement and that involves the public and private sector and is regulated through an approved policy and legislation framework.

The following aspects more specifically describe the end of project situation:

4.2.1 Awareness raising and capacity building

4.2.1.1 The Government has the capacity to implement ESID activities

Capacity has been built in local, regional and national government to implement ESID activities without the support of the international donor community or the requirement to employ international consultants.

Through this capacity officials have the capacity to:

- Monitor and evaluate the impacts of industrial activities on the environment;
- Regulate industrial activities that impact on the environment;
- Review environmental management and impact assessment programmes and provide strategic advice to the implementers of such programmes; and
- Site future industrial activities more effectively on the basis of resource sharing (the concept of industrial ecology will be key in this regard).

Sufficient competency has been built in key resources to implement further training programmes in the country. More specifically, there are resources in the country that have sufficient competency to adapt their knowledge to enable the country to address the complex issues of environmental protection and sustainable development that will arise as industrialization increases.

4.2.1.2 Environmental awareness is built in industry

The industrial sector is aware of the implications of their activities on the environment and how their performance will be regulated in the future. Industrialists are actively engaging in the environmental debate and through the CPC are implementing programmes to reduce their impacts on the environment. The benefits of the CPC are communicated to industry and the services of the CPC are utilized to improve industrial environmental performance.

4.2.1.3 Nation-wide environmental awareness is built

A nation-wide awareness is built in the country regarding the necessity of considering environmental issues when conducting any human activities. Materials are available for ongoing awareness raising. Community based organizations are actively engaged in the awareness raising process.

4.2.2 Policies and institutional structures are in place to support Environmental Management

Environmental policies and legislation are harmonized between the key sectors and the implications of the regulations have been communicated to stakeholders. Legislation has been developed to give force to environmental management instruments such as EIA, environmental monitoring and regulation, and environmental incentive schemes.

The institutional structures for the implementation of the existing and developed policies and legislation have been clarified and agreed.

4.2.3 *Environmental information system is developed*

The environmental authorities have developed an environmental information system that supports environmental regulation and control. The environmental information system contains information related to:

- Ambient environmental quality;
- Industrial environmental controls and performance, including:
 - Emissions and effluent;
 - Waste management;
 - Environmental management systems;
 - Efforts to implement environmentally improved industrial processes;
 - Utilisation of resources such as water, energy and raw materials;
- Number and location of EIA's undertaken and approved; and
- State of the environment (including the pressures, conditions/state and government response).

The information contained in the EIS has been utilized for the development and understanding of the ability of the environment to provide resources for ongoing industrial development and the assimilative capacity to absorb additional industrial wastes. This information is used as a basis for setting up industrial emission standards.

In addition, the information is used to evaluate the performance of government to regulate the environmental performance of industry and ultimately the success of the ESID programme.

4.2.4 *Monitoring programmes are implemented*

The Government has the capacity, competency and equipment to implement a sustainable monitoring programme aimed at regulating industrial and other anthropogenic activities. The monitoring programme will support the ongoing information requirements of the EIS.

The monitoring programme is supported with a national environmental quality laboratory. The laboratory is capable of analysing water, air and soil samples for a wide range of analytes (as required in the EIS). Nationals operating the laboratory are trained for its effective operation. A "sample payment system" has been developed to ensure that the laboratory is self-sustaining.

4.2.5 *Environmental management and Impact Assessment implementation*

Environmental Management System training and awareness training has been undertaken in the country and industrial concerns are implementing EMS' in a drive to improve environmental performance. The EIA guidelines have been revised to ensure that they can be more easily implemented. Revisions will include an evaluation and simplification of the "Projects Requiring an EIA (Mandatory List)" and the development of sector specific guidelines as necessary. A system for the review of EIA's at local regional and national level is in place.

5. PROJECT FRAMEWORK AND MANAGEMENT ARRANGEMENTS

5.1 Project strategy

The project strategy has 6 key cornerstones:

Strategy 1: Cradle-to-grave

The concept of ESID emphasises pollution reduction at source through the implementation of environmental management and clean production principles rather than treatment of emissions and effluents at end-of-pipe. The project strategy, therefore, aims at supporting a cradle-to-grave approach whereby all aspects of industrial environmental pollution are considered. In this regard, the project will aim at reducing resource use through greater process efficiency as well as limiting waste materials from causing environmental damage.

Strategy 2: Multi-stakeholder participation

The project strategy recognises the multi-disciplinary, multi-institutional and multi-stakeholder nature of ESID. In this regard, the project will be conducted to ensure the ongoing and active participation of all stakeholders throughout the process. Multi-stakeholder participation furthermore recognises that training programmes and capacity building exercises must include roleplayers other than simply national government officials.

Strategy 3: Steering committee:

The project steering committee must be representative of the ministries in the government with responsibility for environment and industrial development. In addition, representative from the private sector (for example CTI) should be involved in evaluating the project process and performance. A multi-stakeholder steering committee recognises the importance of the project in defining the sustainable future of industrial development in Tanzania.

Strategy 4: Project management

The project must be carefully monitored and managed to provide ongoing feedback to the steering committee. Each element of the project will be evaluated to determine whether its output is in keeping with the overall strategy of the project. Project elements must not be treated on an individual basis but integrated within the overall objectives of the programme.

Strategy 5: Programme is self-sustaining

The programme must be sustainable beyond the involvement of UNIDO or the funding from the international donor community. Throughout its process, the programme will aim at establishing mechanisms that will ensure its continuation and success beyond the lifespan of the ESID programme.

Strategy 6: Demonstration projects

The programme will be designed around the use of "demonstration projects" in implementing skills and management programmes. The demonstration projects will be chosen to reflect maximum impact that ESID activities can have in improving industrial environmental performance.

5.2 Beneficiaries

The Government of Tanzania is the primary beneficiary of the programme. Government officials will be the main recipients of competency development programmes and will

manage the EIS and laboratory facilities. Within the Government, officials from the VPO will be the direct recipients of the project's benefits, although the MIT will receive significant advantages as a result of the project. The VPO and MIT will be jointly responsible for ensuring the sustainability of the ESID beyond the current programme.

The provision of information on environmental impacts and quality will improve the decision-making process and will provide valuable information for policy development. Indirectly the information will enable academics, researchers and consultants to better understand environmental interactions.

The industrial sector will benefit through receiving support in their drive towards improved environmental performance. The sector will be in a position to understand their impacts on the environment as well to put in place arrangements that will improve the situation. Both of these factors will enable the sector to compete more actively in the international market. In addition, the sector will benefit with reduced resource costs brought about through improved process efficiency and reducing treatment costs.

Awareness programmes are aimed at improving the general public's knowledge of environmental issues. In particular, NGO's, CBO's and other interest groups stand to benefit significantly from the project.

The environment, in its broadest sense and including social and natural aspects, will be the ultimate beneficiary of the project. The control of pollution will result in improved environmental quality and enhanced quality of life.

5.3 Project roles and responsibilities

The project will be implemented through the Ministry of Industry and Trade who are UNIDO's counterparts in Tanzania. The MIT will be supported by representatives from the VPO. Recognising Strategy 2, however, the programme must involve different stakeholders from Tanzania.

The project management structure is reflected in Figure 4.

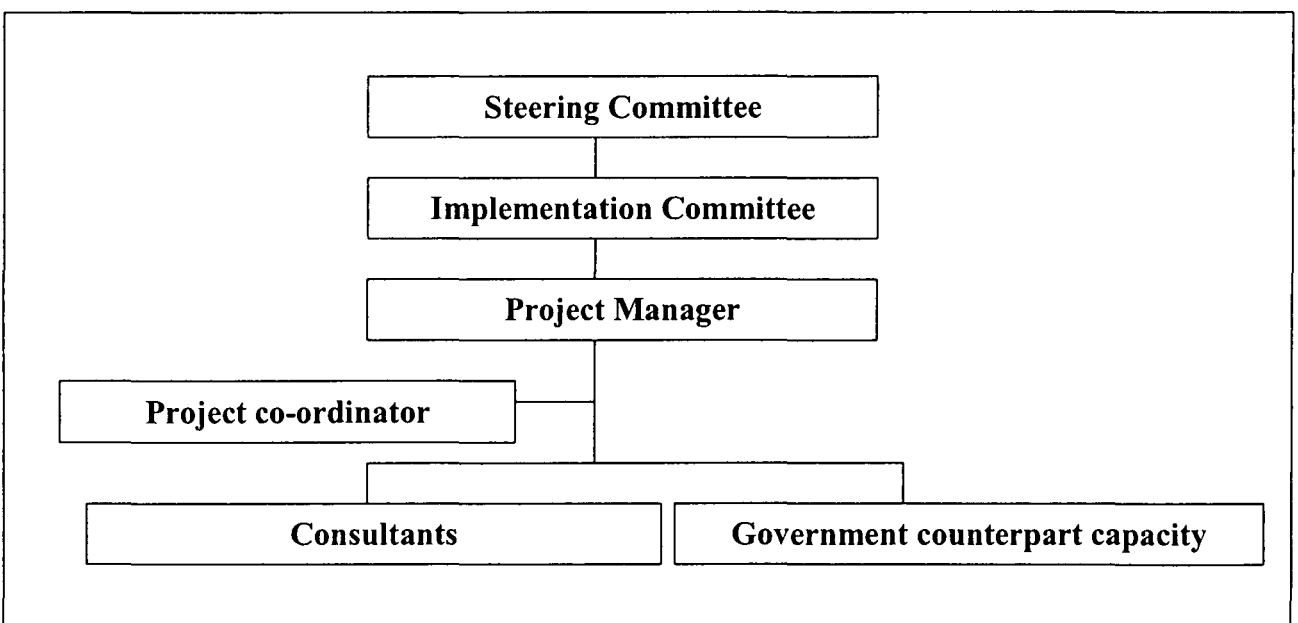


Figure 4: Project Management Structure for ESID in Tanzania

5.3.1 *Management committees*

Two management committees are envisaged for the project:

5.3.1.1 Steering Committee

The Steering Committee (SC) will be made up of senior experts from relevant institutions in Tanzania. As a minimum the following institutions will be represented:

- MIT (Secretariat)
- NEMC and the Division of Environment
- TIRDO/CPC of Tanzania
- UNIDO
- Donor representatives
- Industry representative

The SC will be responsible to evaluate the progress of the project, to ensure that aspects of integration are occurring and that multi-stakeholders are being adequately included. The SC will also ensure the co-ordination between the ESID project and other on-going multilateral and bilateral environmental projects.

The SC will meet quarterly.

5.3.1.2 Implementation committee

The Implementation committee (IC) will include the national counterpart staff, national and international experts and representatives from NGO's and industrial institutions. The IC will be responsible for the day-to-day management of the programme and will report to the SC. It will be the IC's responsibility to ensure that the project is effectively implemented and meets the objectives.

5.3.2 *Consultants*

National and international consultants will be recruited by the IC. A shortlist of at least three candidates will be presented to the IC for evaluation. The final selection of the consultants will be based on their ability perform the task at hand. The SC will ensure that the recruitment process is transparent and fair to all candidates.

International consultants will only be appointed where the IC is certain that national expertise is not sufficient to provide the required service. Preference will be given to candidates with experience in Tanzania.

The nature and responsibility of the consultants will be defined according to specific Terms of Reference and job descriptions developed through the IC.

5.3.3 *Counterpart support capacity*

The Government will provide counterpart staff to work with the IC and consultants as necessary. The salaries of counterpart staff will remain the responsibility of the Government. The Government will ensure that the counterpart staff are actively employed in the activities of ESID.

The programme will provide training to counterpart staff as necessary.

5.4 Project Management

Overall project management will be the responsibility of the IC. The key aspects of project management will be the delivery of all aspects of the project:

On brief, on budget and on time (OB²OT)

This will be facilitated through a fulltime project manager (PM) whose responsibilities will include:

- The co-ordination of the activities of the IC;
- The preparation of a detailed project workplan;
- Preparation of Terms of Reference for the consultants and their national counterparts;
- Evaluation of the reports and work delivered by the consultants and ensuring that it is delivered in accordance with their terms of reference and within the specified budgets;
- Ensuring that national training programmes are co-ordinated and effectively implemented;
- The organisation and implementation of the awareness campaigns and training programmes; and
- The preparation and presentation of progress reports to the SC and the preparation of the final project report.

The project manager will also ensure that there is co-ordination between this project and other environmental projects in Tanzania. This should be facilitated by maintaining a high profile for the ESID project.

The project manager will be supported by a Government appointed project co-ordinator (PC). In addition, the Government will provide a driver and administration assistant.

5.5 Project facilities

The project will be based in Dar es Salaam from office facilities provided by the Government. The Government will make available the necessary furnished offices, telephone and fax facilities, computers and internet access and other facilities necessary to deliver the daily work.

Additional equipment will be purchased as follows:

- Two vehicles will be made available for the IC, SC and project consultants to carry out project related activities;
- 8 computers (2 laptops, 4 general desktops and 2 desktops with the capacity to store the environmental information system);
- Two printers;
- One photo copy machine;
- Audio-visual equipment (including a data projector, overhead projector, screens, camera etc.); and
- Mobile laboratory kits for field sampling and analysis of effluent and emissions.

Specifics for the environmental laboratory are not included herewith as they form an integral component of the project plan.

6. PROJECT PLAN

The project plan specifies the various sub-projects that are required to implement the ESID programme effectively. The project plan includes the establishment of project management processes to ensure the successful implementation of the overall project.

6.1 Establish project management arrangements

Purpose/Scope:

This project will ensure that the activities that follow address their objectives in terms of being on brief, on budget and on time and will ensure that the project elements are properly integrated.

Necessary activities (ToR):

- Identify and appoint the project manager
- Identify and nominate the national members of the SC, IC and project co-ordinator
- Conduct training seminar for members of the SC and IC on ESID and the management mechanisms
- Prepare the detailed workplan
- Prepare detailed Terms of Reference for the various project activities and assign roles and responsibilities
- Ongoing project management

Outputs:

- Detailed project workplan
- Specific Terms of Reference for project activities

Duration: Three years

Budget: \$450,000

Key agencies (i.e. agencies that should be consulted when refining ToR)

- Ministry for Industry and Trade (MIT)
- Division of Environment
- NEMC

The remaining objectives are described in terms of specific projects. The main objectives of the project plan are described in Section 4.2. The project schedule is reflected in Figure 5.

6.2 Objective 1: Awareness raising and capacity building

6.2.1 *Project title:* CAPACITY BUILDING IN ENVIRONMENTAL ASSESSMENT AND MANAGEMENT TOOLS WITHIN LOCAL GOVERNMENT.

Purpose/Scope:

Local Authorities in Tanzania play a key role in the planning and development of the regions. To support ecologically sustainable development sufficient capacity must exist within the Local Authority to administer the EIA process and to effectively contribute to decision-making with regards to environmental issues.

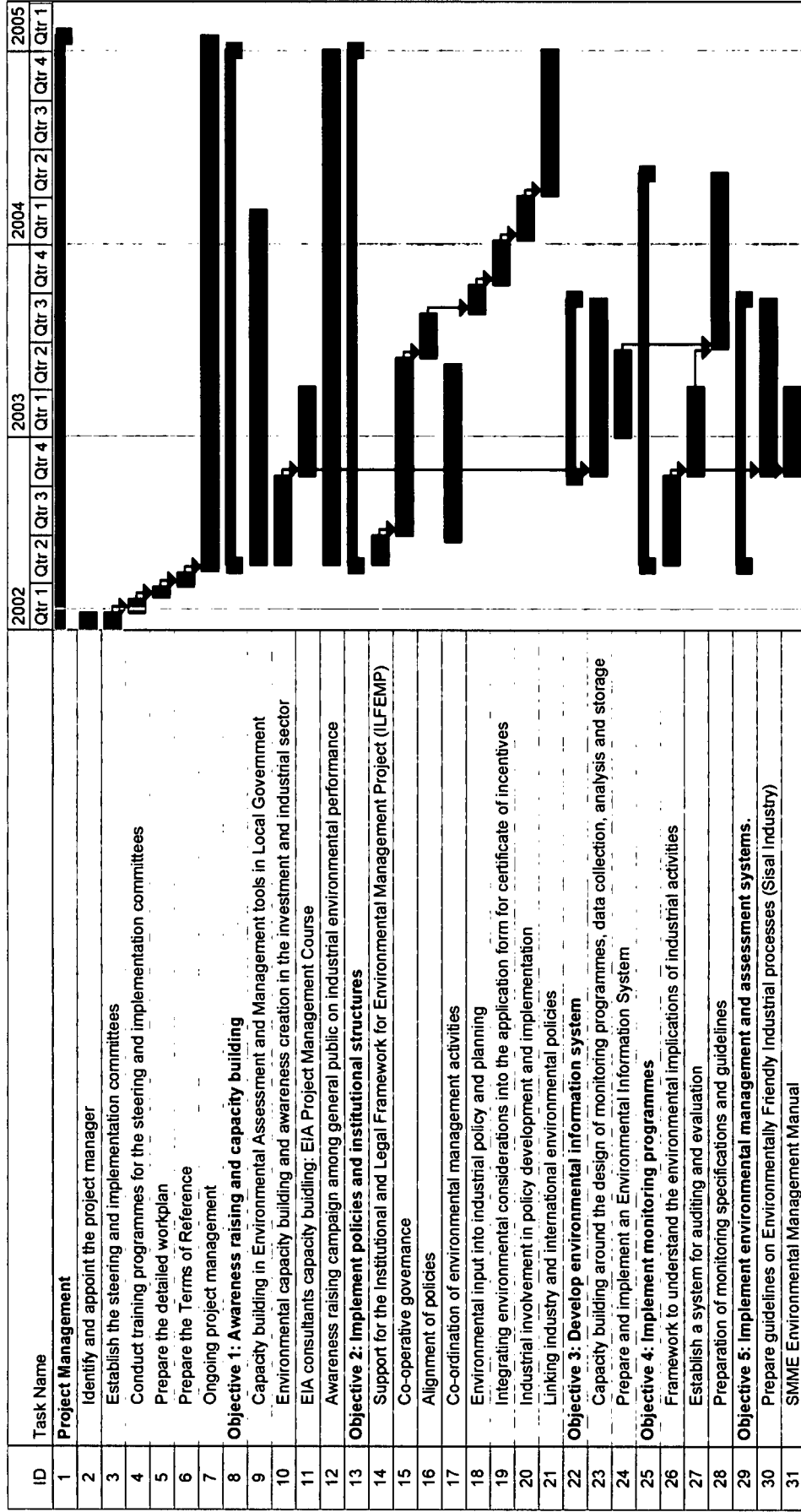


Figure 5: Project Plan

This project therefore has the main objective of building capacity in the use and administration of environmental assessment and management tools such as EIA and Environmental Management Plans.

Necessary activities (ToR):

- Preparatory phase: Meet with relevant stakeholders to refine ToR and get buy in and gather relevant information;
- Meet with relevant local authorities in each of the regions and discuss an approach to implementing this project;
- Compile course manual which aims to provide participants with:
 - an introduction to the concept of Sustainable Development;
 - an understanding of the fundamental principles of EIA;
 - exposure to the fundamental stages of the EIA process including screening, scoping, public participation, specialist studies, integration and assessment, decision-making and EIA implementation;
 - an appreciation that EIA is useful, real and practical and that environmental issues need to be approached holistically;
 - a positive attitude to EIA and a desire to incorporate the process in applicable projects;
 - exposure to the EIA process with regards to the Tanzanian EIA Guidelines;
 - experience of working in multi-disciplinary groups and an appreciation that environmental issues must be addressed by multi-disciplinary teams.
 - presentation of case studies appropriate to Tanzania;
 - exposure to practical training sessions to illustrate the EIA theory.
- The draft manual should be reviewed by an appropriate EIA specialist with at least 5 to 10 years of EIA experience;
- Include all reviewers comments;
- Prepare a training programme using the manual as the main training material. The programme should indicate the training equipment and preparation requirements (including a site visit to appropriate case study).
- Undertake training sessions in each of the regions, including site visits where possible to relevant projects;
- Network with appropriate Local Authorities, NGOs and other organisations to identify potential candidates for the course;
- Compile a budget for financial support for the course in the long term and identify possible ways in which the course could become self-sustaining i.e. pay for itself – printing and distribution of learning material and presenting courses.
- Produce hardcopies and electronic copies on CD of all materials;
- Investigate the possibility of integrating the course into similar existing courses at the University of Dar Es Salaam.

Outputs:

- Training programme
- Course manual
- Training courses in all the regions

Duration: 2 years

Budget: \$150,000

Key agencies (i.e. agencies that should be consulted when refining ToR)

- Local Authorities in the various regions
- Division of Environment
- NEMC
- University of Dar Es Salaam

6.2.2 Project title: ENVIRONMENTAL CAPACITY BUILDING AND AWARENESS CREATION IN THE INVESTMENT AND INDUSTRIAL SECTOR**Purpose/Scope:**

There is a need to increase general awareness of environmental issues related to industrial development in Tanzania. This should be focussed on the industrial sector through the Tanzanian Investment Centre and the MIT. Awareness with regards to environmental regulations and impact assessment is also necessary. This will facilitate better integration of environmental issues into investment cycle.

The objectives of this project are thus to develop appropriate training material (linked to projects 6.2.3 and 6.4.1) that will facilitate environmental awareness and capacity building with regards to EIA and other environmental regulations.

Necessary activities (ToR):

- Preparatory phase: Meet with relevant stakeholders to refine and finalise the terms of reference;
- Using the outputs from 6.4.1 and 6.2.1, design a training course for the industrial sectors to increase awareness of environmental issues and environmental regulatory procedures such as EIA, permit application etc;
- Provide a draft training manual to relevant stakeholders for review and comment;
- Finalise draft manual by including comments;
- Prepare a training programme using the manual as the main training material. The programme should indicate the training equipment and preparation requirements (including a site visit to appropriate industries).
- Undertake 2 training session. The first should be to train local trainers and the second should be to a general audience from the industrial sector with the newly trained trainers providing the bulk of the training.
- Compile a budget for financial support for the course in the long term and identify possible ways in which the course could become self-sustaining i.e. pay for itself – printing and distribution of learning material and presenting courses.
- Produce hardcopies and electronic copies on CD of all materials;

Outputs:

- Training programme
- Train the trainers course
- Training course to industrial sector

Duration: 6 months

Budget: \$100,000

Key agencies (i.e. agencies that should be consulted when refining ToR)

- MIT
- Tanzanian Investment Centre
- Division of Environment
- NEMC

6.2.3 Project title: EIA CONSULTANTS CAPACITY BUILDING: EIA PROJECT MANAGEMENT COURSE

Purpose/Scope:

The majority of EIA studies undertaken in Tanzania rely heavily on international consultants and expatriate experts. Capacity development for preparation of EIAs is thus needed in Tanzania. Using local experts to undertake EIAs of industrial developments in Tanzania will ultimately facilitate ecologically sustainable industrial development as local experts will provide a platform for increasing awareness of environmental issues related to industrial development.

The main objective of this project is to build local capacity in EIA project management in Tanzania.

Necessary activities (ToR):

- Preparatory phase: Meet with relevant stakeholders to refine and finalise the terms of reference;
- Thoroughly review the Tanzanian EIA Guidelines and administrative process;
- Develop an EIA Project Management Manual that focuses on the practical aspects of managing the EIA process including some of the following:
 - Preparing for a call for EIA tender
 - Budgeting for the EIA process
 - Scheduling the EIA process
 - Contractual arrangements with the client
 - Relationships with the client, authorities, interested and affected parties and specialists during the various phases of the EIA
 - Managing the scoping phase
 - Managing the specialist studies
 - Managing the integration phase
 - Decision-making
 - Linking the EIA results to the EMP
 - Wrapping up the EIA process
 - Include practical sessions as part of the training course;
- The draft manual should be reviewed by an appropriate EIA specialist with at least 5 to 10 years of EIA experience;
- Include all reviewers comments;
- Prepare a training programme using the manual as the main training material. The programme should indicate the training equipment and preparation requirements (including a site visit to appropriate case study).
- Network with appropriate NGOs and other organisations to identify potential candidates for the course;
- Undertake 2 training sessions in Dar Es Salaam. The first should be to train trainers and the second should be to relevant individuals that are presently involved in the EIA consulting and those wanting to be involved;

- Compile a budget for financial support for the course in the long term and identify possible ways in which the course could become self-sustaining i.e. pay for itself – printing and distribution of learning material and presenting courses.
- Produce hardcopies and electronic copies on CD of all materials;
- Investigate the possibility of integrating the course into similar existing courses at the University of Dar Es Salaam.

Outputs:

- Training programme
- Course Manual
- Train the trainers course
- Training course to industrial sector

Duration: 6 months

Budget: \$50,000

Key agencies (i.e. agencies that should be consulted when refining ToR)

- Division of Environment
- NEMC
- University of Dar Es Salaam
- Centre for Energy, Environment, Science and Technology (CEEST Foundation)
- Other environmental NGOs

6.2.4 Project title: AWARENESS RAISING CAMPAIGN AMONG GENERAL PUBLIC ON INDUSTRIAL ENVIRONMENTAL PERFORMANCE

Purpose/Scope:

Although there is an active environmental NGO base in Tanzania, the public are not generally well informed about environmental issues and the relationship between industrial activities and environmental impacts. As a consequence the general public are often not in a position to actively engage in environmental advocacy programmes that could enhance environmental performance. This project, therefore, has the main objective of raising the awareness in the general public about environmental issues and the relationship between human activities, specifically industrial activities, and the environment.

Necessary activities (ToR):

- Preparatory phase:
 - Develop a strategy and plan for awareness raising to the general public on the environmental performance of industries; and
 - Identify the stakeholders to involve in the awareness campaign.
- Prepare and produce awareness campaign materials (such as posters, brochures, media releases etc.).
- Conduct awareness campaign to the industrial sector, NGO's and the public sector on the importance of environmental performance;
- Prepare a final report that outlines the possible future activities that will sustain environmental awareness.

Outputs:

- Awareness campaign materials
- Media releases

Duration: 3 years

Budget: \$100,000

Key agencies (i.e. agencies that should be consulted when refining ToR)

- Division of Environment
- NEMC
- CTI
- MIT
- Centre for Energy, Environment, Science and Technology (CEEST Foundation)
- Environmental NGOs

6.3 Objective 2: Policies and institutional structures are in place

This objective can only be met through two inter-related initiatives. The first 4 projects, 6.3.1 to 6.3.4 aim to put in place mechanisms for co-operative governance of environmental issues while Projects 6.3.5 to 6.3.8 are directed at the industrial sector specifically.

6.3.1 *Project title: SUPPORT FOR THE INSTITUTIONAL AND LEGAL FRAMEWORK FOR ENVIRONMENTAL MANAGEMENT PROJECT (ILFEMP)*

Purpose/Scope:

The ILFEMP is a project that has been initiated to assist the VPO make decisions on a new institutional structure for environmental management. A well-functioning institutional structure is critical to the implementation of ecologically sustainable industrial development in Tanzania. The ILFEMP process has been slow in delivering outcomes and the process must be geared towards more rapid decision-making and immediate implementation once the decision has been made.

The ESID programme can proactively contribute to the ILFEMP project by providing resources to support the project and facilitate industry's input into the participation processes (Task 1) and providing external review and advise (Task 2).

Necessary activities (ToR):*Task 1:*

- ESID Programme co-ordinator to meet with the ILFEMP project team to understand how the ESID programme can contribute.
- Assist ILFEMP to prepare funding proposals to donor agencies
- Facilitate industry's input into ILFEMP by funding industry representation in ILFEMP workshops
- Develop a simple background document on the ILFEMP and its implications, for industry stakeholders

Task 2:

- Meet with relevant stakeholders to define ToRs for a consultant to review the ILFEMP outputs and make recommendations
- Prepare a review of the ILFEMP process and outputs
- Test the conclusions with ILFEMP stakeholders
- Provide recommendations on a preferred institutional structure from the ILFEMP options
- Present the findings to the ILFEMP project team and stakeholders

Outputs:

- Report on a preferred institutional structure for environmental management
- Participation in ILFEMP workshops
- ILFEMP background document for industry

Duration:

Task 1 = on-going through the lifespan of ILFEMP

Task 2 = 2 months

Budget: \$30,000

Key agencies (i.e. agencies that should be consulted when refining ToR):

- Vice-President's Office
- Division of Environment
- NEMC
- Chamber of Commerce, Industry and Agriculture

6.3.2 Project title: CO-OPERATIVE GOVERNANCE

Purpose/Scope

Many environmental responsibilities particularly relating to monitoring and regulation are devolved down to the local government level under the National Environmental Policy. At present these responsibilities are poorly defined and responsibility shifts between different levels and branches of government. As a result, some environmental management issues are not being adequately addressed. At the local level, there are insufficient resources to handle environmental management responsibilities. It is therefore necessary to provide a clear framework for devolution of authority to the local level and the resources that will be necessary to make this viable. This exercise will also assist the ILFEMP process. Once the national institutional structure has been decided, national government will need to look to co-operative governance with local government. This project will expedite the process.

Necessary activities (ToR):

- Meet with relevant stakeholders to refine TOR, get buy in and gather relevant information
- Undertake a literature review and interviews with stakeholders at national and local levels
- Prepare a situational analysis of current local government activities and capacity
- Prepare a proposal for effective devolution of environmental authority to local governments
- Present the findings to the relevant ministries

Outputs:

Situational analysis of local government activities and capacity
Proposal for devolution of environmental authority to local government

Duration: 1 year

Budget: \$30,000

Key agencies (i.e. agencies that should be consulted when refining ToR):

- Division of Environment
- NEMC
- Ministry responsible for Local Government
- Tanzania Bureau of Standards
- ILFEMP project team
- Presidential Implementation Committee

6.3.3 *Project title: ALIGNMENT OF POLICIES*

Purpose/Scope:

Due to the lack of overarching framework environmental legislation in Tanzania, sectoral ministries have developed their own environmental legislation, in isolation from each other. As there is no coherent strategy for environmental policy development, there is some overlap between policies whilst some issues, such as air pollution, are not addressed directly. This has also created a complex institutional arrangement with a plethora of bodies responsible for the same things. The ILFEMP process will ultimately resolve much of the institutional confusion. This project seeks to address the alignment of policies. This will provide a clear picture of the range of environmental legislation relevant to industrial development and assist developers in ensuring they meet all regulations and consult all the appropriate institutions.

Necessary activities (ToR):

- Meet with relevant stakeholders to refine ToR, get buy in and gather information
- Review the work undertaken on environmental policies through the ILFEMP process
- Analyse the policies to highlight overlap, conflicts and gaps
- Identify the institutions responsible for enforcing each policy
- Prepare an updated analysis of environmental policies
- Provide the draft report to relevant stakeholders for comment and review
- Finalise the report by including relevant comments
- Distribute copies of the report to stakeholders

Outputs:

Report on the alignment of environmental policies in Tanzania

Duration: 3 month

Budget: \$30,000

Project linkage:

The project links directly to the institutional strengthening project for support to the ILFEMP and the capacity building project on integrating environmental issues into industrial and

sectoral policy formulation. The outcomes of this project will feed into the Users guide on Environmental law in Tanzania.

Key agencies (i.e. agencies that should be consulted when refining ToR):

- Division of Environment
- ILFEMP project team
- NEMC
- Sectoral government ministries involved in environmental management
- LEAT
- University of Dar es Salaam, Law Department

6.3.4 Project title: CO-ORDINATION OF ENVIRONMENTAL MANAGEMENT

Purpose/Scope:

Environmental management responsibility is distributed across a number of government departments. The co-ordination of these activities is not undertaken on a regular and formalized manner. This creates difficulties for industrialists who need to interact with government on issues relating to the environment. The Inter-Ministerial Technical Committee is responsible for reviewing all documents before submission to Cabinet. This committee is however at a high level and addresses all documentation, not specifically environmental material. It is necessary to establish a formal forum for government departments to discuss environmental management issues and a forum for industry to interact with government on environmental management. Ideally industries' interactions with government should occur through a single focal point.

The development of a forum between government departments may result from the ILFEMP process. The ESID programme can contribute to identifying a possible mechanism for inter-ministerial communication on environmental management and mechanisms for regular environmental reporting. The ESID programme can play a facilitation role in encouraging consultation between government and the private sector.

Necessary activities (ToR):

- Meet with relevant stakeholders to refine ToR, get buy in and gather information
- Review international best practice in consultative mechanisms
- Consult with local stakeholders on consultative mechanisms
- Recommend models for formalized consultation between government departments and between government and industry on environmental management
- Provide the draft report to relevant stakeholders for comment and review
- Finalise the report by including relevant comments
- Distribute copies of the report to stakeholders

Outputs:

Report on a mechanism for consultation between different government departments
Establishment of a forum for consultation between environmental departments, the Ministry of Industry and Trade and the private sector.

Duration: 1 year

Budget: \$50,000

Project linkage:

The project is linked to:

- Support for ILFEMP
- Industry involvement in policy development and implementation
- Alignment of policies

The project may fit directly under the ILFEMP and in this case it will be important to ensure that a consultative mechanism with industry is recognized.

Key agencies (i.e. agencies that should be consulted when refining ToR):

- Division of Environment
- NEMC
- Ministry of Industry and Trade
- ILFEMP project team
- Industry representatives
- Presidential Implementation Committee

6.3.5 Project Title: ENVIRONMENTAL INPUT INTO INDUSTRY POLICY AND PLANNING

Purpose/Scope:

As environmental regulations become stronger, industrial development must take cognisance of these changes. Competence is required within the MIT to liaise with environmental departments and advise the ministry on environmental issues. It is therefore necessary for an environmental portfolio to be created within the MIT.

Associated with the need to link industry and environment in policy and planning, is the opportunity that exists for the relevant departments to collaborate in the implementation of SIDP and NEP. There are opportunities to link the two policies in order to maximize ecologically sustainable industrial development.

This will promote greater ownership of industrial environmental management by the Ministry of Industry and Trade and its stakeholders.

Necessary activities (ToR):

Task 1:

- Consult with relevant stakeholders to obtain feedback on the need for greater environmental capacity within the MIT
- Identify the most appropriate structure for developing an environmental portfolio in the Ministry of Industry and Trade (secondment of NEMC staff, hire environmental adviser, develop capacity in-house)
- Present recommendation to MIT and the Presidential Implementation Committee

Task 2:

- Meet with relevant stakeholders to refine ToRs, get buy in and gather information
- Analyse SIDP and NEP
- Consult with stakeholders on opportunities and mechanisms for collaboration
- Identify opportunities and constraints to ecologically sustainable industrial development offered by implementing SIDP and NEP concurrently
- Prepare a report highlighting opportunities and mechanisms for collaboration in implementing SIDP and NEP

- Provide the draft report to relevant stakeholders for comment and review
- Finalise the report by including relevant comments
- Distribute copies of the report to stakeholders

Outputs:

Institutional capacity for environmental management in the MIT

Report on opportunities and mechanisms for collaboration in implementing SIDP and NEP

Duration: Task 2 will require a 2 month period to prepare an opportunities and constraints report. The implementation of recommendations will be on-going.

Budget: \$60,000

Project linkage:

Task 1 will link with the capacity building exercise for integrating environmental issues into industrial and sectoral policy formulation.

Task 2 will link directly to the action plans for SIDP and NEP and component 1 of the Integrated Industrial Development Programme, "Implementation of the Sustainable Industrial Development Policy."

Key agencies (i.e. agencies that should be consulted when refining ToR):

- MIT
- Division of Environment
- NEMC
- Presidential Implementation Committee

6.3.6 Project title: INDUSTRY INVOLVEMENT IN POLICY DEVELOPMENT AND IMPLEMENTATION

Purpose/Scope:

The private sector has a pivotal role to play in ensuring that the policies being developed by national government are realistic and implementable. Industry representatives must be involved in policy development processes. This can occur through attendance of stakeholder workshops by CTI and TCCIA or presentations to Parliamentary committees. This project can fund the involvement of industry representatives in environmental and industrial policy development.

In order to facilitate the implementation of policies a "users guide" to environmental law must be prepared. The guide must focus specifically on the implications of framework and sectoral policies on different industries.

Necessary activities (ToR):

- Meet with relevant stakeholders to refine ToR, get buy in and gather information
- Identify opportunities for industry participation in policy development
- Elect industry representatives to participate and feedback on policy

Concurrently,

- Review industrial sectors and operations in Tanzania
- Review framework and sectoral policies relevant to industry
- Identify policies relevant to different sectors

- Compile a simple user-guide for use by industrialists and regulatory institutions
- Provide the draft user-guide to relevant stakeholders for comment and review
- Finalise the user-guide by including relevant comments
- Translate the user-guide into all necessary languages
- Produce hardcopies for distribution to all relevant stakeholders

Outputs:

Industry inputs into policy development
Industry User-Guide to Environmental Law in Tanzania

Duration: 6 months

Budget: \$30,000

Project linkage:

This project links with component 6 of the Integrated Industrial Development Programme, Private Sector Development Programme” as well as the institutional strengthening projects on linking trade and international environmental agreements and alignment of policies.

Key agencies (i.e. agencies that should be consulted when refining ToR):

- Division of Environment
- Ministry of Industry and Trade
- Standing Parliamentary Committee on the Environment
- CTI
- TCCIA

6.3.7 Project title: LINKING INDUSTRY AND INTERNATIONAL ENVIRONMENTAL POLICIES

Purpose/Scope:

Tanzania has ratified a number of international environmental agreements. Each of these agreements places a responsibility on the country to meet certain environmental obligations. Agreements such as the Montreal Protocol, the Stockholm Convention and the Basel Convention have clauses that relate to industrial development in Tanzania. In order to meet these obligations and keep to international environmental standards it is necessary for industry to understand the implications of the international environmental agreements for their activities.

International agreements must be written into national law for them to take full effect. Many of the conventions ratified by Tanzania have not been written into law yet but this is likely to happen once the ILFEMP process is complete. Industry can adopt a proactive approach to these convention obligations and simultaneously, keep abreast of internal environmental trends.

Necessary activities (ToR):

Task 1:

- Meet with relevant stakeholders to refine ToRs, get buy in and gather information
- Compile a situational analysis of the current international environmental agreements ratified by Tanzania
- Identify the impacts of agreements on industrial development in Tanzania
- Identify funding opportunities provided by the international environmental agreements

- Recommend tools and instruments to meet international environmental agreements e.g. cleaner development mechanisms, substitutes for POPs, GHGs
- Compile a guideline on the impacts of international environmental agreements on industry
- Provide the draft guideline to relevant stakeholders for comment and review
- Finalise the guidelines by including relevant comments
- Distribute copies of the report to stakeholders

Task 2:

- Identify industrial policies that should include environmental obligations
- Identify opportunities for the National Environmental Bill and other environmental policy to enact the international environmental agreements
- Involve environmental adviser in industrial policy development
- Prepare national policy on international environmental agreements

Outputs:

Guidelines on the impact of international environmental agreements on industry

Duration:

Task 1 = 8 months

Task 2 = on-going

Budget: \$50,000

Key agencies (i.e. agencies that should be consulted when refining ToR):

- Division of Environment
- Ministry of Industry and Trade
- Ministry of Foreign Affairs and International Co-operation
- Sectoral ministries responsible for environmental issues

6.3.8 *Project title: INTEGRATING ENVIRONMENTAL CONSIDERATIONS INTO THE APPLICATION FORM FOR CERTIFICATE OF INCENTIVES*

Purpose/Scope:

At present the application forms used by the Tanzanian Investment Centre to screen projects does not include information on the environmental or occupational health and safety aspects of the proposed development. This information could add value to the screening process, as it will immediately indicate if an EIA is required or not and may be used to identify if the development qualifies for additional "environmental incentives".

The purpose of this project will thus be to revise the Tanzanian Investment Centre's "Application Form for Certificate of Incentives" to include environmental and occupational health and safety aspects. The questions should be accompanied by a brief description of why they are important and how they should be used to assess the application.

Necessary activities (ToR):

- Preparatory phase: Meet with relevant stakeholders to refine and finalise the terms of reference;
- Draft environmental and occupational health and safety questions to form part of "Application Form for Certificate of Incentives";

- Provide explanatory notes on why these issues are important and how they should be considered as part of the decision-making i.e. used to screen if an EIA is required or not;
- Environmental questions should be linked to the EIA guidelines and once answered should provide some indication of whether and EIA will be required or not;
- Questions should include some of the following:
 - Quantity and quality of solid and liquid wastes (indication of any hazardous waste)
 - Fresh water requirements
 - Electricity requirements
 - Other infrastructural requirements
 - Type of technology used and environmental benefits of using it
- Provide a draft document to relevant stakeholders for review and comment;
- Finalise draft document by including comments;
- Produce hardcopies and electronic copies on CD;
- Add to TIC investor website.

Outputs:

Revised "*Application Form for Certificate of Incentives*"

Guideline document on how answers can be used for decision-making

Duration: 3 months

Budget: \$30,000

Key agencies (i.e. agencies that should be consulted when refining ToR)

- MIT
- Tanzanian Investment Centre
- Division of Environment
- NEMC

6.4 Objective 3: Environmental information system is developed

6.4.1 *Project title: CAPACITY BUILDING AROUND THE DESIGN OF MONITORING PROGRAMMES, DATA COLLECTION, ANALYSIS AND STORAGE.*

Purpose/Scope:

The capacity to monitor and audit the impacts of industrial development projects is limited in Tanzania. This is because there is a lack of adequate quality data, little money is allocated for monitoring, severe capacity constraints (skilled staff) exist and technology to undertake the monitoring is inadequate.

Capacity building in terms of skilled staff is required in the form of training in data collection, analysis and storage. This project therefore has the main objective of building capacity in environmental data collection and analysis.

Necessary activities (ToR):

- Preparatory phase: Meet with relevant stakeholders to refine ToR and get buy in and to gather relevant information;
- Compile a guideline document for data collection, analysis and storage for the major industrial pollutants (effluent, air pollution, hazardous waste etc).

- Provide a draft guideline document to relevant stakeholders for comment and review;
- Finalise the guidelines by including relevant comments;
- Produce hardcopies and copies on CDs for distribution to all relevant stakeholders;
- Use the guideline as the basis for a training manual and design a programme that will provide training to individuals in the appropriate environmental departments;
- Present the training courses to appropriate environmental departments and include practical training using existing laboratories;
- Investigate the possibility of integrating the course into similar existing courses at the University of Dar Es Salaam.

Outputs:

- Course manual
- Training course

Duration: 2 years

Budget: \$80,000

Key agencies (i.e. agencies that should be consulted when refining ToR)

- NEMC
- Division of Environment
- Tanzanian Bureau of Standards
- University of Dar Es Salaam

6.4.2 *Project title: PREPARE AND IMPLEMENT AN ENVIRONMENTAL INFORMATION SYSTEM*

Purpose/Scope:

The project is aimed at preparing and implementing a functional environmental information system to store environmental information and have it available for regulation and monitoring of industry. The information will also form a basis for the evaluating the ability of the environment to assimilate additional wastes from industry.

Necessary activities (ToR):

Phase 1: User needs assessment

- Establish the overall purpose and goal of the system;
- Define the current and future users of the system, and what their expected roles will be;
- Evaluate the short and long term prioritised needs (for data, operations and decisions);
- Establish any special circumstances or requirements

Phase 2: System specification

- Determine the system functionality needs in terms of:
 - Data sets
 - Interface
 - Reporting
 - Mapping
- Establish the hardware and Software requirements
- Establish the key business routines (including data capture and system maintenance)

Phase 3: System Design

- Developing an overall system architecture and interaction
- Designing a relational database
- Writing pseudo business logic
- Drafting map layouts and functions
- Laying out key display screens (as 'dummies')

Phase 4: System Development

- Database creation and test data input
- Interface development and coding of business routines
- Report creation
- Map digitizing, coding and integration
- Creating an installation routine or methodology

Phase 5: System Implementation

- Acquiring any needed hardware and software
- Installing and testing the system
- Recommending data management routines for the client (e.g. backups, adding new data, updating existing data)
- Documenting the system

Outputs:

Functional Environmental Information System
User Manual'

Duration: Six months

Budget: \$50,000

Key agencies (i.e. agencies that should be consulted when refining ToR)

- Division of Environment
- NEMC

6.5 Objective 4: Monitoring programmes are implemented

6.5.1 Project title: FRAMEWORK TO UNDERSTAND THE ENVIRONMENTAL IMPLICATIONS OF INDUSTRIAL ACTIVITIES IN TANZANIA

Purpose/Scope:

This project will aim at understanding the environmental implications of industry in Tanzania. The project will:

- Inventorise small and large industries to identify size and type of production processes, type, quality and quantity of emission discharges and actual and potential impacts on the environment
- Develop a system to categorise industrial establishments in relation to their actual or potential impacts on the environment
- Determine parameters that need to be measured during audit and inspection.
- Finalise the draft industrial emission and discharge standards prepared by the ESID Project Office through the consultation of various stakeholders.

Necessary activities (ToR):

- Prepare a comprehensive questionnaire to evaluate industrial processes, including:
 - location of the industry,
 - type of process,
 - raw materials (nature and quantity),
 - waste products (air, water and solid wastes),
 - processes for disposal etc.
- Implementation of questionnaire;
- Capture results into database;
- Evaluate the environmental consequences of the key industrial sectors and prepare detailed report .
- Define Environmental Performance Indicators (EPI's) which aim at only highlighting the key performance criteria in terms of standards and guidelines. The EPI's will indicate the "worst case scenario" as well as considering international "best practice" in each of the development sectors. The information gleaned through EPI's will be useful to establish a system for reviewing industrial environmental performance on a systematic basis. The system will also be useful for long-term monitoring and evaluation purposes (ie these will be the parameters that should be measured during audit and inspection).
- Prepare guidelines and standards for industrial pollution control

Outputs:

Questionnaire to evaluate industries.

Guidelines and standards for industrial pollution control in Tanzania

Duration: Six months

Budget: \$30,000

Key agencies (i.e. agencies that should be consulted when refining ToR)

- Division of Environment
- Ministry of Industry and Trade
- All other relevant ministries with environmental policy affecting industry (Water & Livestock Development, Works, Natural Resources & Tourism, Energy & Minerals, Agriculture & Food Security, Health)
- Standing Parliamentary Committee on the Environment
- CTI
- TCCIA

6.5.2 Project title: ESTABLISHING A SYSTEM FOR AUDITING AND EVALUATION

Purpose/Scope:

The project will aim to:

- Develop industrial audit and inspection guidelines taking into account ISO 14000 principles
- Develop industrial permits and fining system for different categories of industrial establishments.
- Carry out industrial environmental audit for compliance checking as a demonstration project
- Prepare a report on industrial environmental audit exercise.

Necessary activities (ToR):

- Using the ISO14001 series as a basis, a guideline document for the purposes of industrial auditing will be prepared. The guideline document will provide specific recommendations for the key industrial sectors in Tanzania, highlighting aspects that the auditor should specifically consider.
- Specify roles and responsibilities in the auditing process (including industrial representatives and the Government).
- Prepare a system of permitting/licenses and fining. This system is vital in supporting the audit framework to ensure that auditors have the "power" to backup their evaluations with enforcement action.
- Establish institutional structures for auditing.
- Conduct an auditing and inspection course including a one day audit exercise as a key element of the intensive course.
- Conduct a one day seminar to which a wider audience will be invited.

Outputs:

- Audit and inspection guideline document
- Permitting/licensing system
- Course materials

Duration: Six months

Budget: \$40,000

Key agencies (i.e. agencies that should be consulted when refining ToR)

- Division of Environment
- Ministry of Industry and Trade
- All other relevant ministries with environmental policy affecting industry (Water & Livestock Development, Works, Natural Resources & Tourism, Energy & Minerals, Agriculture & Food Security, Health)
- Standing Parliamentary Committee on the Environment
- CTI
- TCCIA

6.5.3 Project title: PREPARATION OF MONITORING SPECIFICATIONS AND GUIDELINES**Purpose/Scope:**

In order to support the auditing and inspection frameworks and guidelines it is essential that the Environmental Protection Agency is equipped with an integrated monitoring system that specifies the systematic collection of environmental data to meet specific objectives and environmental needs. The monitoring will consider both effects and compliance monitoring. The project will aim at establishing capacity to monitor the impacts of industrial development on the air, land and water. This objective will be met through devising an industrial pollution monitoring network and specify inputs for the establishment of a database. In order to ensure that the monitoring programme is effective the project should provide specifications of laboratory field kits useful for audit and inspection and organise practical training for counterpart staff on waste sampling, analysis and the establishment of information networks. The project should aim at building capacity through specific demonstration projects in the monitoring of air, land and water in Dar es Salaam.

Necessary activities (ToR):

- Establish target area for demonstration project.
- Provide detailed recommendations on the specific parameters that should be monitored. This will take into account:
 - realistic sampling, relevant sampling methods,
 - cost-effective data collection,
 - the use of appropriate databases,
 - locating sites etc.
- Specify the sites for monitoring in the demonstration project and establish siting principles for application at other localities.
- The specifications of any field equipment will be detailed.
- Training of implementation strategies for field staff, this will for the practical component of the monitoring training. This will include detailed field training as well as supportive training in data analysis, interpretation and reporting.

Outputs:

- Guideline document, specifying the principles for monitoring in support of the auditing and inspection framework
- Detailed training on the implementation of the sampling strategy, including techniques, methodologies for establishing an appropriate system, practical exposure to sampling processes, analytical tools that could be employed, data analysis (including statistical techniques) and reporting processes.
- Evaluation of impacts of industry on environmental quality in Dar es Salaam.

Duration: 2 years

Budget: \$100,000

Key agencies (i.e. agencies that should be consulted when refining ToR)

- Division of Environment
- NEMC

6.6 Objective 5: Environmental management and Impact Assessment implementation

6.6.1 Project title: PREPARING GUIDELINES ON "ENVIRONMENTALLY FRIENDLY" INDUSTRIAL PROCESSES (SISAL INDUSTRY)

Purpose/Scope:

This project will aim at supporting the improvement of the environmental performance of industry in Tanzania. The project will target industrial sectors through the development of a system of regulation by the industries through voluntary agreements and self-reporting of waste emissions and discharges into the environment. This will be supported by the production of guidelines on environmentally friendly industrial production processes. The project should aim at utilizing a case study – the Sisal Industry in Tanzania is positioned to accommodate the case study.

Necessary activities (ToR):

- Preparation of a guideline document providing a detailed understanding of industrial processes that could be employed to improve the environmental performance of the Sisal sector in Tanzania.
- Evaluate the current state of technology in Tanzania and consider the concept of BATNEEC (Best Available Technology Not Entailing Excessive Cost).
- Preparation of a draft of the document
- On the basis of the demonstration project a document will be prepared that will consider the implementation of similar initiatives with other sectors in Tanzania.
- Preparation of an implementation process that considers the environmental risks associated with each sector and the key areas for intervention in the short, medium and long-term.
- The implementation process will provide recommendations for capacity building in the industries as well.

Outputs:

Guideline document for environmental friendly industrial processes in Tanzania, including specifications for environmental management systems and implementation guides.

Duration: Two years

Budget: \$100,000

Key agencies (i.e. agencies that should be consulted when refining ToR)

- Division of Environment
- NEMC
- Ministry of Industry and Trade
- Standing Parliamentary Committee on the Environment
- CTI

6.6.2 Project title: SME ENVIRONMENTAL MANAGEMENT MANUAL**Purpose/Scope:**

SMEs contribute to more than 30% of job creation in Tanzania and are one of the most effective mechanisms for eradicating poverty. However, this sector of the economy has the potential to create serious environmental impacts. Due to the nature of SMEs they generally fall outside of the regulatory frameworks and possibly the most effective way of ensuring that this sector contributes to ecologically sustainable industrial development is through awareness creation of environmental issues and practical training in the management and mitigation of environmental impacts resulting from SMEs.

SIDA initiated a programme to address this issue under the title: "*Small Industries Consultancy and Training Assistance (SICATA)*". However, the project was not completed due to funds being shifted to other priority areas. This project should build on the work funded by SIDA and complete it.

This project therefore has the main objectives of identifying appropriate environmental management practices in selected SME sub-sectors to improve environmental management within these sectors.

Necessary activities (ToR):

- Preparatory phase: Meet with relevant stakeholders to refine ToR and get buy in and to gather relevant information (A draft manual was compiled under a SIDA funded project titled "*Small Industries Consultancy and Training Assistance*" (SICATA). Meetings with various small industry sectors were undertaken and information obtained to compile the draft manual. This manual was not finalised and should be sourced and used as a basis to complete the work. Contacts: SIDA and Small Industries Development Organisation (SIDO) - Mr Wenga: Director of Training and Consultancy Tel: 022 2151945/7).
- Identify appropriate sectors within the SME industries where a manual of this nature would be beneficial (Metal industries, charcoal, mechanical workshops etc) – use the above documentation as a basis for this, or if not available undertaken interviews with appropriate SME owners through SIDO.
- Compile an Environmental Management Manual for use by SMEs. The manual should include the following topics:
 - Introduction to general environmental issues (sustainable development and environmental issues such as air, water and soil pollution)
 - Sector specific environmental issues and resultant environmental impacts
 - Importance of managing environmental impacts
 - Practical management actions that can be implemented to minimise or mitigate resultant environmental impacts (use case studies where appropriate to show practical implementable and affordable management actions)
 - Relevant environmental regulations, by-laws, permit requirements and processes that may be required to be followed or adhered to in the future
 - List contact details of useful information sources and organisations
- Circulate the draft manual to relevant stakeholders for review and comment
- Finalise the manual
- Prepare a training programme using the manual as the main training material. The programme should indicate the training equipment and preparation requirements (including a site visit to appropriate SME). The programme should consist of two phases:
 - General environmental awareness programme for first time applicants to SIDO (Two half day workshops), and
 - Introduction to environmental management of SMEs (sector specific) (Two full days). This part of the training should include a site visit to existing SME projects to demonstrate the effectiveness and implementing the recommended management actions
- Undertake 1 training session to train SIDO staff and others on how to present the course
- Compile a long term budget for financial support for the course in the long term and identify possible ways in which the course could become self sustaining i.e. pay for itself – printing and distribution of learning material and presenting courses.

Outputs:

- SME Environmental Management Manual
- Locally trained persons able to present the introductory course on environmental awareness for the SME sector.
- Locally trained persons able to present the course on environmental management within the SME sector.

Duration: 6 months

Budget: \$50,000

Key agencies (i.e. agencies that should be consulted when refining ToR)

- SIDO - Mr Wenga: Director of Training and Consultancy
- Tanzanian Traditional Energy Development and Environment Organisation (TaTEDO)
- Other SME agencies

6.6.3 Project title: A GUIDE TO EIA IN TANZANIA FOR THE INDUSTRIAL SECTOR

Purpose/Scope:

The EIA guidelines presently exist in 5 volumes. These guidelines need to be simplified into a single comprehensive document for easy reference by potential investors. The document should aim to meet the following objectives:

- Provide investors with a comprehensive overview of the EIA process requirements;
- Provide a clear indication of the decision-making process and the various authorities involved;
- Provide a database of environmental and land use planning permits and applications that may be required in addition to the EIA approval e.g. a water permit under the Water Act;
- Provide the potential investor with an idea of how the process may affect the project life-cycle in terms of time and costs;
- Clearly outline the roles and responsibilities of the various stakeholders involved in the EIA process (developer, authorities, interested and affected parties, EIA consultant).

Necessary activities (ToR):

- Preparatory phase: Meet with relevant stakeholders to refine and finalise the terms of reference;
- Redraft the EIA guidelines to meet the objectives as discussed above;
- Provide a draft document to relevant stakeholders for review and comment;
- Finalise draft document by including comments;
- Produce hardcopies and electronic copies on CD for “mass” distribution;
- Add to TIC investor website.

Outputs:

- Workshops to discuss draft and final documents
- Guideline documents: “A GUIDE TO EIA IN TANZANIA FOR THE INDUSTRIAL SECTOR”

Duration: 6 months

Budget: \$30,000

Key agencies (i.e. agencies that should be consulted when refining ToR)

- Division of Environment
- NEMC
- Tanzanian Investment Centre (TIC)

6.6.4 *Project title: STRATEGIC ENVIRONMENTAL ASSESSMENT (SEA) GUIDELINES FOR INTEGRATING ENVIRONMENTAL ISSUES INTO INDUSTRIAL LAND USE AND SECTORAL PLANNING PROCESSES.*

Purpose/Scope:

In order to guide and regulate the allocation, ownership, use, management, and administration of land, land use planning the National Land Use Planning Commission (NLUPC) has undertaken a number of initiatives. These include, among others, the preparation of the Northern Zone Physical Plan, covering administrative areas of Tanga, Kilimanjaro, and Arusha regions; the preparation of village land use plans for villages in Dodoma district; Urambo District land use plan; and Southern Zone Land Use Plan, covering Lindi, Mtwara, and Ruvuma.

The integration of environmental issues at the (land use and sector) planning level is essential to form a platform for future ecological sustainable industrial development. A coordinated effort between the Division of Environment and the Ministry of Lands and Human Settlements Development will be necessary to achieve the required integration.

This project therefore has the main objective of promoting the integration of environmental issues into the national, regional and local land use and sectoral planning processes to facilitate sustainable industrial development.

Necessary activities (ToR):

Phase 1:

- Preparatory phase: Meet with relevant stakeholders to refine ToR and get buy in and to gather relevant information;
- Compile a situational analysis on the present planning processes and legislation (national, regional and local) and key industrial sectors;
- Identify how environmental issues can be better integrated into the present land use and sectoral planning processes;
- Compile a guidelines document for use by National, Regional and Local Planning and Environmental Departments;
- Provide a draft guideline document to relevant stakeholders for comment and review;
- Finalise the guidelines by including relevant comments;
- Produce hardcopies and copies on CDs for distribution to all relevant stakeholders.

Phase 2

- Use the guideline as the basis for a training manual and design a programme that will provide training to local and national planning and environmental departments;
- Present the training courses to both local and national planning and environmental departments;
- Compile a budget for financial support for the course in the long term and identify possible ways in which the course could become self-sustaining i.e. pay for itself – printing and distribution of learning material and presenting courses.
- Investigate the possibility of integrating the course into similar existing courses at the University of Dar Es Salaam.

Outputs:

Phase 1:

- Guideline document for integrating environmental issues into local, regional and national planning processes.

Phase 2:

- Training programme
- Training courses to local and national planning and environmental departments

Duration: 2 years

Budget: \$100,000

Key agencies (i.e. agencies that should be consulted when refining ToR)

- Division of Environment
- NEMC
- Industrial Sectors
- Ministry of Lands and Human Settlements Development
- National Land Use Planning Commission (NLUPC)
- University of Dar Es Salaam

6.7 Project Budget

TASK	BUDGET ESTIMATE
<i>Project Management</i>	\$450,000
<i>Objective 1: Awareness raising and capacity building</i>	
Capacity building in Environmental Assessment and Management tools in Local Government	\$150,000
Environmental capacity building and awareness creation in the investment and industrial sector	\$100,000
EIA consultants capacity building: EIA Project Management Course	\$50,000
Awareness raising campaign among general public on industrial environmental performance	\$100,000
<i>Objective 2: Implement policies and institutional structures</i>	
Support for the Institutional and Legal Framework for Environmental Management Project (ILFEMP)	\$30,000
Co-operative governance	\$30,000
Alignment of policies	\$30,000
Co-ordination of environmental management activities	\$50,000
Environmental input into industrial policy and planning	\$60,000
Integrating environmental considerations into the application form for certificate of incentives	\$30,000
Industrial involvement in policy development and implementation	\$30,000
Linking industry and international environmental policies	\$50,000
<i>Objective 3: Develop environmental information system</i>	
Capacity building around the design of monitoring programmes, data collection, analysis and storage"	\$80,000
Prepare and implement an Environmental Information System	\$50,000
<i>Objective 4: Implement monitoring programmes</i>	
Framework to understand the environmental implications of industrial activities	\$30,000
Establish a system for auditing and evaluation	\$40,000
Preparation of monitoring specifications and guidelines	\$100,000
<i>Objective 5: Implement environmental management and assessment systems.</i>	
Prepare guidelines on Environmentally Friendly Industrial processes (Sisal Industry)	\$100,000
SMME Environmental Management Manual	\$50,000
Prepare a guide to EIA for the industrial sector	\$30,000
Prepare Strategic Environmental Assessment Guidelines for integrating environmental issues into industrial land use and sectoral planning processes	\$100,000

7. FOLLOW-UP EVALUATION AND PROJECT MONITORING

The project will submit quarterly reports to the SC and biannual reports to the Government, UNIDO and the funding agency. The biannual reports will contain all information regarding the project and delivery against the approved project plan. Any changes to the project plan must be approved jointly by the SC, the Government, UNIDO and the donor agency. An auditable financial report will accompany each progress report.

A detailed project report will be completed at the end of the project. The final report will be submitted for evaluation to the Government. The final report will be delivered well before the completion of the programme.

APPENDIX 1: THE MANUFACTURING SECTOR

The manufacturing sector is based primarily on agricultural processing (sugar, beer, cigarettes, sisal twine), diamond and gold mining, oil refining, shoes, cement, textiles, wood products, fertilizer and salt.

Food, Beverage and Tobacco

The food manufacturing in Tanzania include manufacturing of dairy products, canning and preservative of fruits and vegetables, canning fish and similar foods, manufacture of animal and vegetable oils, grain milling baking, sugar and confectionery as well as prepared animal feeds. The beverages include the distilling of ethyl alcohol, distilling rectifying and blending of spirits; manufacture of wines, cider and beer. Also included are the production of soft drinks and carbonated waters and the bottling of natural spring and minerals waters. The tobacco subsector comprises manufacturing of cigarettes, tobacco and other tobacco production.

Textiles, Clothing, Leather and Footwear

Activities undertaken in this category include spinning, weaving, finishing of textiles; the manufacture of made-up textile goods; knitting, manufacture of carpets, rugs, cordage, rope and twines.

For the leather and footwear activities involved include tanneries; leather finishing and manufacturing of products from leather such as luggage, handbags and purposes. The leather sub-sector was the first to be identified for privatisation. Hitherto, all the three large tanneries and two share making factories have been privatised.

Wood and Wooden Products, excluding Furniture Activities

Accounted in the sub-sector include sawmills, planing and other wood mills manufacturing goods. Also included in this sub-sector is the manufacturing of wooden containers, cane products and wooden products.

Paper and Paper Products

This comprises the manufacturing of pulp, paper, paperboard, fibreboards, light packaging, heavy packaging, stationery and other paper products.

Chemicals, Petroleum, Rubber, Plastics and Cement

The chemical sub-sector comprise the manufacture of basic industrial chemicals, fertilizers, pesticides, plastic materials and products, medicinal and pharmaceuticals, soap, detergents, perfumes and other cosmetics, paints and other chemical products. While the petroleum sub-sector comprise of petroleum refineries, fuel oils, lubricating oils and manufacture of asphalt materials. Rubber products produced in the country include tyres and tubes conveyors and fan belts, rubber mats, groves, pipes and tanks, plastic sheets, kitchenware, furniture and footwear. Production, albeit characterized by peaks and troughs, has remained approximately constant since the early nineties.

The oil industry's discovery of natural gas in the Songo Songo field has enabled an industrial project, entailing the linking of the gas reserves to an ammonia/urea fertiliser plant, soon to be constructed at Kilwa Masoka, with a joint venture company, Kilwa Ammonia Co. (Kilamco), supervising the project.

There are three cement plants in the country, at Mbeya, Wazo Hill (near Dar es Salaam), and Tanga. These have been rehabilitated with Danish and Swedish aid, enabling production to rise to around one million tons per annum in 1991. Domestic demand for cement is less than this, and the country is thus able to export the product. Tanzania Portland Cement Co Ltd is a major producer of cement.

Non-metallic Mineral Products

This includes manufacture of pottery, china and earthenware, glass and glassware products, bricks, tiles, cement, concrete, gypsum and plaster products.

Physical volume of production has been in the up swing since the early nineties and particularly towards the end of the decade following privatisation of the cement mills. Level of employment has similarly been sustained.

Basic Metal Products

This comprises rolling mills and foundries to produce products such as slabs, bars, sheets, plates, strips, tubes, pipes and rods.

Fabricated Metals, Machinery and Equipment

This include manufacture of cutlery, hand tools and general hardware, furniture and fixtures, doors, metal staircases and window frames. Others are electrical motors transformers, electrical control devices and switchboard apparatus as well as radios and transport equipment, mainly bicycles and animal and auto-pulled carts.

Other Manufacturing Industries

This covers products such as jewellery and related articles, furniture manufacture, measuring and controlling equipment and optical goods. Production in this group of products has persistently been in the upward trend. Employment levels have similarly been in rising. Production in this category has exemplified a steady growth, with an average growth of over 12 percent over the last decade. For the last three years employment in the industry increased by 11,000.

APPENDIX 2: POLICY AND LEGISLATION RELEVANT TO ESID ACTIVITIES

National Environmental Policy, 1997

The National Environmental Policy provides a framework for making fundamental changes that are needed to bring environmental considerations into the mainstream of decision-making in Tanzania. It also seeks to provide policy guidelines and plans and gives guidance to the determination of priority actions, for monitoring and regular review of policies, plans, and programmes. It further provides for sectoral and cross-sectoral policy analysis thus exploiting synergies among sectors and interest groups.

The overall objectives of the National Environmental Policy 1997 are:

- To ensure sustainability, security and equitable use of resources for meeting the basic need of the present and future generations without degrading the environment or risking health or safety
- To prevent and control degradation of land, water, vegetation, and air which constitute our life support systems;
- To conserve and enhance our natural and man-made heritage, including the biological diversity of unique ecosystems of Tanzania;
- To improve the condition and productivity of degraded areas including urban and rural settlements in order that all Tanzanians may live in safe, healthful, productive and aesthetically pleasing surroundings;
- To raise awareness and understanding of the essential linkages between environment and development, and promote individual and community participation in environmental action, and,
- To promote international co-operation on the environmental agenda, and to expand our participation and contribution to relevant bilateral, sub-regional, regional, and global organisation and programmes, including implementation of treaties.

In line with the growing awareness of the importance, severity, cross-cutting and complex nature of environmental issues the government is currently reviewing all sectoral policies to ensure that they are consistent with current macro-economic reforms and national environmental policy. The underlying premises of the sectoral policy reviews are the need to balance accelerated economic growth with more efficient and sustainable use of the environment and natural resources; and the need to integrate environmental management into all sectors.

The National Environmental Policy 1997, particularly stressed on the need for formulating environmental legislation and sectoral legislation as an essential component for effective and comprehensive environmental management and improvement of life.

The National Environmental Policy also provides for the execution of a range of strategic functions using policy instruments such as environmental impact assessments, environmental legislation, economic instruments and environmental standards, and indicators. A framework is also provided for institutional arrangements and coordination. The role of major groups such as non-governmental and community based organizations, and the private sector is underscored. Capacity building and human resource development are emphasized.

National Environmental Action Plan (NEAP)

The National Environmental Action Plan seeks, among other things, to integrate the environmental policy and the conservation strategy into the planning process; involve stakeholders in environmental management; promote environmental education and public

awareness; promote research and technology initiatives; evolve and strengthen a national environmental information system; promote environmental impact assessments; guide the development of a framework environmental legislation; and prepare a long term investment plan to address major environmental concerns.

Environmental Framework Legislation

Tanzania currently does not have general environmental framework legislation in place to guide and coordinate the different, and sometimes conflicting, interests and activities of the different sectors and to ensure that these are integrated into a coherent system which will facilitate more sustainable development. The second phase of the Institutional and Legal Framework for Environmental Management Project (ILFEMP)¹, organised by the Division of Environment, Vice-President's Office, is to draft a new Framework Environmental Management Bill. It is uncertain what progress has been made to date.

Environmental Impact Assessment Guidelines, 1997

The NEMC has published a series of five volumes dealing with EIA in detail. Steps of the EIA procedure include:

- Registration
- Screening
- Impact Assessment
- Reviewing
- Permitting Decision
- Monitoring
- Auditing and Decommissioning

The volumes provide guidelines on report writing, screening and scoping, review and monitoring, and a general checklist of environmental characteristics. A mandatory list of activities requiring EIA is provided in volume 1. Mining and quarrying projects are included without reference to the scale and nature of the operations. It should be noted, however, that these volumes act as guidelines and it is unclear whether they have achieved mandatory status.

Proposed Environmental Standards for Municipal and Industrial Wastewaters

The environmental standards drafted by NEMC and promulgated in 1997 provide guidelines for the general tolerance limits for Municipal and Industrial Wastewaters. Two drawbacks are apparent with these guidelines. The first is that they only cover a limited number of parameters and secondly the maximum permissible concentrations are deemed by many water quality analysts to be too low since even naturally occurring trace elements exceed guideline concentrations.

Sectoral Environmental Laws

The management of the environment in Tanzania has been undertaken on the basis of a plethora of laws and regulations². Tanzania has a number of other statutes sometimes referred to as environmental laws, but which are actually resource exploitation statutes. These include the Mining Act (1998), Fisheries Act (1974) and the Forest Ordinance (1959). These will be covered in the following sections. Few cases have been decided on the basis

¹ Details of this project in Rob's literature pack: Working Paper from the Vice-President's Office (1999).

² See also LEAT (2001) Environmental Law Handbook for Business.

of these laws. However, the common law of torts on nuisance and negligence are applicable in Tanzania.

It should be noted, however, that much of the existing environmental legislation is outdated. Furthermore, since these laws are widely scattered, their enforcement (or non-enforcement) has often led to conflicts between different government departments, thus undermining their effectiveness. Legislation aimed at regulating the use and management of natural resources has evolved along sectoral lines, governing specific environmental media.

A national workshop to initiate the formulation of a framework environmental legislation and review of sectoral laws was held in September 1995. The workshop proceedings have been prepared, as well as a project proposal to develop the framework and review. Efforts are underway to secure funds to support the preparation process with the Division of Environment now working on new comprehensive environmental legislation. Individual sectors have also taken the challenge of initiating reforms in policies and laws relating to sustainable development and environment.

International Environmental Legislation

The government is signatory and has acceded to a number of International/ Regional environmental treaties:

- Convention on Biological Diversity, ratified in 1996
- The Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), ratified in 1979.
- The Regional Lusaka Agreement on co-operative enforcement operations directed at illegal trade in wild fauna and flora, adopted in 1994, signed in 1994.
- The Convention on the Conservation of Migratory Species of Wild Animals, adopted in 1979.
- The International Plant Protection Convention, was adopted in 1951.
- The Convention Concerning the Protection of the World's Cultural Heritage, adopted in 1972, ratified in 1987.
- International Convention to Combat Desertification in Countries Experiencing Drought and/or Desertification, signed in 1997
- United Nations Convention on the Law of the Sea, ratified in 1985.
- Convention on the Continental Shelf, adopted in 1958
- Convention on the High Seas, adopted in 1958
- International Convention for the Protection of Pollution from Ships, adopted in 1973
- International Convention on Oil Pollution Preparedness, Response and Co-operation, adopted in 1990.
- Convention for the Protection, Management and Development of the Marine and Coastal Environment of the Eastern African Region and Related Protocols ratified on 1 March, 1996
- United Nations Framework Convention on Climate Change, ratified in 1996
- The Vienna Convention on the Protection of Ozone Layer, acceded in 1993
- Montreal Protocol on Substances that Deplete the Ozone Layer, acceded in 1993
- Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal, acceded in 1993
- Bamako Convention on Ban of the Import into Africa and the Control of Transboundary Movements of Hazardous Wastes within Africa, ratified in 1993

Sustainable Industrial Development Policy, 1996

In 1996, the Government of Tanzania launched the Sustainable Industrial Development Policy (SIDP) (1996-2020) with the main mission to contribute towards the achievement of the overall national long-term development goals as enshrined in the overall national vision, and to enhance sustainable development of the industrial sector. The main objectives of the policy are: human development; creation of employment opportunities; sustainable economic growth; environmental sustainability; and equitable development. The SIDP has underscored the role science and technology, and Research and Development (R&D) have played in the attainment of desired goals.

(<http://www.un.org/esa/agenda21/natlinfo/countr/tanzania/eco.htm#indus>)

The main purpose of SIDP is to set out a path for industrialising Tanzania so that by the turn of the first quarter of the 21st Century it becomes a semi industrialised country with industry, broadly defined, accounting for over 40% of GDP. In its approach SIDP embraces the principles of a market-led economy and competitiveness. It points out plainly that industry would only prosper in the hands of increased private sector participation both in decision-making and implementation. The government in this aspect has vowed to increasingly provide an environment which is welcoming, attractive, stable and that can encourage private sector investment. The private sector in its part should take all necessary initiatives to respond and manage challenges of globalisation. Firms are challenged to pursue firm strategies which are geared towards building the necessary capabilities to enable them compete in the world market (<http://www.tanzania.go.tz/industriesf.html>).

Trade and Investment

Tanzania now has a comprehensive liberalised trade regime. External trade restrictions on imports have been removed (except for those items on which control is necessary for health or security reasons), export and import procedures have been simplified and single channel export of traditional export crops has ended. Internal trade restrictions on previously controlled commodities have been removed: price controls have been eliminated on most products (with the exception of petroleum); all goods for sale in the domestic market have been deconfined; agricultural pricing has shifted from rigid price fixing to indicative pricing; and private institutions and individuals can now participate in the procurement of food and non-food (basically export crops).

At present exporters are benefiting from the liberalisation of export licensing, and the duty drawback scheme. A feasibility study for the establishment of Export Processing Zones (EPZs) in Tanzania was carried out during 1996, and the draft regulations and organisation of EPZs are under preparation. An EPZ is however already in place in Zanzibar. Companies established in the EPZ are offered 10 years corporate tax holiday and duty exemption on imports of raw materials and capital equipment. Zanzibar operates a separate Investment Promotion Agency which was established in 1991. Investments in Zanzibar are regulated by the national Investment Promotion Act of 1986 (under revision), outlining provisions and incentives for investments in areas of priority. The Economic Zones Act (1992) governs EPZs.

Private investment (both local and foreign) is considered as the main engine of growth. The government has introduced wide ranging market-based reforms to rehabilitate the economy and sustain growth. The reforms include price deregulation, trade liberalisation, re-examination of the roles of co-operatives and marketing boards, promulgation of an investment policy and examination of the country's financial system. To stimulate interest in both domestic and foreign investment, the government passed the necessary legislation - the National Investment Promotion and Protection Act 1990 was repealed by the National Assembly in August 1997 and replaced by the Tanzania Investment Act (1997).

Foreign direct investment in Tanzania has been increasing since 1992 when an investment promotion policy was adopted and implemented. At present, more than half of all approved new investments in Tanzania are foreign-owned. Foreign direct investment in Tanzania cut across a wide range of sectors, but heavy investments have recently been directed to industrial holdings, mining, financial sector and agriculture

In the 2000 Budget Address, the government reaffirmed its commitment to implementing policies that encourage and promote investment, to reduce costs related to production and trade, to foster competition and to enhance private sector participation in the economy

Tanzania Investment Act of 1997

The National Investment (Promotion and Protection) Act of 1990 has been replaced by the Tanzania Investment Act of 1997. Under the authority conferred by Part III, Section 17 (1-8) the Tanzania Investment Centre grants Certificates of Incentives to investors. To qualify for and obtain TIC Certificate of Incentives, minimum fixed investment cost for new, rehabilitation and expansion projects should be at least US\$100,000 for projects which are 100% citizen owned or a locally registered company whose majority shares are held by citizens, and US\$300,000 for projects which are 100% non-citizen owned, joint venture or a company which is incorporated under laws of any country other than Tanzania.

Minerals Policy, 1997

The present government is an active promoter and strong supporter of private investment in Tanzania's mineral sector. A series of substantial political and economic reforms have been implemented over the last ten years including the Mineral Policy of Tanzania 1997, Mining Act 1998, and Fiscal Package 1998. Under these changes, the 1998 Mining Act and 1999 Regulations govern all mineral exploration development and mining activities. The environmental impacts of the mining sector are to be addressed through the Mining Sector Environmental Action Plan which will include provision for health, safety, and environmental regulations.

The Mineral Policy of Tanzania in 1997 was to attract and enable the private sector to take the lead in exploration, mine development, mineral beneficiation and marketing.

The mineral policy objectives are to:

- Stimulate exploration and mining activities
- Regulate and improve artisanal mining
- Ensure that wealth generated from mining support sustainable economic and social development
- To minimize or eliminate adverse social and environmental impact of mining activities
- Promote and facilitate mineral and mineral based products' marketing arrangements
- Alleviate poverty especially for artisan and small scale miners
- Promote and develop Tanzania as the gemstone centre of Africa

The objectives of the Policy with regard to small-scale mining activities are

- To promote small-scale mining and encourage investments;
- Assist in the identification of small-scale ore deposits and making them accessible;
- Provide education and training services on marketing and finance skills; and
- To further encourage and emphasize the transformation of artisanal miners into formal small-scale miners in such a way as not to deprive the miners livelihood.

Mining Act 1998

The new Mining Act 1998 replaces the old Mining Act of 1979 with the aim of reducing bureaucracy in its implementation. The provisions of the Act have contributed significantly to investor confidence, particularly in terms of security of tenure of mineral licenses and in the transparency and predictability in the way in which the mining legislation operates. Under the Act, Mineral Rights concern large scale and small-scale operations.

Specific features in the new Mining Act 1998 include:

- Right to trade in mineral rights;
- Simplification and consolidation of past statutes on mining and mineral trading;
- Improved security of tenure through removal of most past ministerial discretionary powers and introducing a mining advisory committee responsible of advising the Minister on decisions to make;
- Enhanced clarity and transparency;
- Fair, streamlined and non-discriminatory licensing procedure
- Merger of the reconnaissance and prospecting licenses into a single mining license
- Environmental management.
- Access to foreign exchange at market rates.

Specific provisions for environmental management found within the legislation include:

- Identification of mining activities requiring an Environmental Impact Assessment.
- Obligations and responsibilities towards the environment.
- Provisions for the cancellation or suspension of a license in the event of non-compliance with environmental directives contained in the Act or the regulations.
- Environmental protection measures for the disposal of tailings and waste in the form of regulations

The government process of EIA and EMP evaluation involves experts from the NEMC, the Vice Presidents Office (Division of Environment), Ministry of Water and Livestock, Ministry of Natural Resources and Tourism, Ministry of Lands and Human Settlement and the Ministry of Energy and Minerals (Ngonyani, 2000)

Mining (Safe Working and Occupational Health) Regulations, 1999

The provisions of these regulations, promulgated in 1999 deal with all aspects of Health and Safety that must be taken into account during mining operations. These regulations apply during exploration, evaluation, development, construction, production, closure, reclamation and abandonment of the mine.

According to section 10 of the regulations the overall responsibility for the provision of Health and Safety of persons employed at the mine rests with the Operations Manager. This individual is also responsible for complying with and enforcing the requirements of the regulations and any other directive given under the law in the interests of safety, health and discipline on the mine.

The Regulations are divided into 14 headings each dealing with a different aspect of the mining operations and related health and safety requirements.

Mining (Environmental Management and Protection) Regulations, 1999

These regulations, promulgated in 1999 contain provisions relating to Environmental Impact Assessment and Management, Environmental Standards and Monitoring, Reclamation

Requirements, Requirements for Artisanal and Small-Scale Miners and the posting of a Rehabilitation Bond.

National Fisheries Policy, 1997

The National Fisheries sector policy and strategy statement was adopted in December 1997. The statement focuses on the promotion of sustainable exploitation, utilization and marketing to provide food, income, employment foreign exchange earnings and effective protection of aquatic environment to sustain development. The overall goal of the National Fisheries Policy is to promote conservation, development and sustainable management of the Fisheries Resources for the benefit of present and future generations.

The main policy strategies are:

- Instituting effective mechanism for monitoring fishing activities especially in deep water fishing for export to minimize unrecorded exports and to ensure that appropriate government revenue is collected.
- Establishing conservation centres in all lake waters and sea waters and ensure effectiveness in maintaining quality and managing the natural ecosystem.
- Strengthening research and extension services for fishermen.
- Improving infrastructure for fish handling, processing, packaging, preservation storage and marketing.

Marine and Coastal Legislation

The Fisheries Act (1970) is the major legal instrument for current fisheries policy.

Other instruments are territorial sea and Exclusive Economic Zone Act (1989), the Tanzania Fisheries Research Institute Act (1980) and Marine Parks and Reserves Act (1994). Most of these need to be revised and subsidiary legislation updated.

(<http://www.tanzania.go.tz/indexE.html>)

The Marine Parks and Reserve Act aims, inter alia, to protect, conserve, and restore the species and genetic diversity of living and non-living marine resources and the ecosystem processes of marine and coastal areas. It also marks the beginning of the enactment of environmental legislation, which includes community-based conservation through the involvement of villagers, and a local resident user dependent on a marine park or marine reserve and makes provision for environmental impact assessment.

(<http://www.un.org/esa/agenda21/natlinfo/countr/tanzania/natur.htm>;

Vice-President's Office, 1999)

Draft National Forestry Policy

Tanzania has initiated actions towards incorporating environmental concerns in forestry. These initiatives include the review of sectoral policies (forestry, agriculture, land policy, etc.); and adoption of the Tanzania Forestry Action Plan (TFAP), the National Conservation Strategy for Sustainable Development (NCSSD), the National Environmental Action Plan, and the National Environmental Policy.

The Forest policy is under review in order to reflect social, economic, cultural, and political circumstances. The draft national forest policy of 1994 has a broad objective of managing forest resources sustainably.

Specific objectives of the draft policy are aimed at:

- Maintaining ecological balance which is vital for sustenance of all life forms, human, animal, and plant;
- Demarcating and reserving in perpetuity, for the benefits of present and future inhabitants of the country, sufficient forested land;
- Managing well forest estates and all forest growth on public lands;
- Involving local institutions, individuals and the private sector in the development and management of forests and trees;
- Promotion of research in all branches of forestry; and
- Promotion of education in all branches of forestry.

<http://www.un.org/esa/agenda21/natlinfo/countr/tanzania/natur.htm> (1997)

Forest Ordinance, 1959

The Forest Ordinance is the major legal instrument of the existing Tanzania forest policy. It covers the creation and declaration of forest resources. The requirements necessary for declaring an area as a forest reserve are spelled out. The Forest Ordinance is not meant as a policy instrument for the attainment of certain objectives. It is rather an administrative instrument which enables the establishment of reserves.

The Ministry responsible for forests has suggested the following amendments to the Forest Ordinance. The Ordinance will be extended to cover the establishment of institutions other than state forest reserves, such as village forest reserves, controlled areas, silvi-pastoral areas for pastoralists, etc. Minimum management standards for village and private forest lands will be included in the forest ordinance, with a provision that the Forest and Beekeeping Division supervises their enforcement. Key areas will be reserved for biological conservation as strict nature resources. Appropriate incentives in the form of subsidies, subsidized loans or tax reductions are considered desirable for fostering afforestation. The Ministry of Natural Resources and Tourism will take the necessary action to implement these provisions.

National Conservation Strategy for Sustainable Development (NCSSD)

<http://www.un.org/esa/agenda21/natlinfo/countr/tanzania/natur.htm>

International Law

- The Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), ratified in 1979.
- Convention on Biological Diversity, signed in 1992 and ratified in 1996
- The Regional Lusaka Agreement on Co-operative Enforcement Operations Directed at Illegal Trade in Wild Fauna and Flora, adopted in 1994, signed in 1994.
- The Convention on the Conservation of Migratory Species of Wild Animals, adopted in 1979.
- The International Plant Protection Convention, adopted in 1951.
- International Convention to Combat Desertification in Countries Experiencing Drought and/or Desertification, signed in 1997
- United Nations Convention on the Law of the Sea, ratified in 1985.
- Convention on the Continental Shelf, adopted in 1958
- Convention on the High Seas, adopted in 1958
- International Convention for the Protection of Pollution from Ships, adopted in 1973
- International Convention on Oil Pollution Preparedness, Response and Co-operation, adopted in 1990.

- The Convention for the Protection, Management and Development of the Marine and Coastal Environment of the Eastern African Region (the Nairobi Convention), adopted in 1985 and acceded to in 1996.

This last Convention includes two Protocols and an Action Plan. The objective of the Convention is to ensure sound environmental management of the maritime and coastal areas of the East African region. It provides a framework for the protection and development of marine and coastal resources. The protocols focus on the conservation of flora and fauna and on measures for combating marine and coastal pollution. The Convention is an initiative considering the economic and social value of the Eastern African marine and coastal environment, the unique hydrographic and ecological characteristics of the region, local shortcomings in the integration of environmental protection in national planning, and the inability of the more broad-based environmental conventions "to entirely meet the special requirements of the Eastern African region."

Tanzania stands to benefit from the Convention and its Protocols. Priority areas include coastal management, pollution monitoring, contingency planning to combat marine pollution, coastal erosion, and environmental impact assessment. Parties co-operate in information sharing on the conservation and management of natural resources, and exchange expertise within the sub-region

(<http://www.un.org/esa/agenda21/natlinfo/countr/tanzania/natur.htm>)

The Convention on Biological Diversity, signed in 1992 and ratified in 1996, gives Tanzania and opportunity to contribute to the global initiatives for the conservation of biological resources and makes it eligible to benefit from technology transfer, financial assistance, scientific and research co-operation, and capacity building. In addition, Tanzania stands to benefit from other provisions of the Convention relating to: research and training; public education and awareness; the need for impact assessments with respect to projects that may threaten genetic resources, species, or habitat; exchange of information; and technical co-operation. These provisions provide avenues for the development of a technical, social and management infrastructure that is conducive to better protect Tanzanian biological diversity. It also creates a basis for exchange and co-operation among country parties.

<http://www.un.org/esa/agenda21/natlinfo/countr/tanzania/natur.htm>

Agricultural Policy

Agricultural sector development has been undertaken with the objective of increasing the production of food and cash crops in order to improve food security, generate foreign exchange, supply domestic industries with raw materials, and raise rural income levels to alleviate poverty. Short-term policies in this sector have focused on removing price distortions and minimizing losses due to inefficiencies in marketing and in process industries respectively. Direct involvement and control of the agricultural sector by the government has been reduced. Research and extension services are being emphasized.

(<http://www.tanzania.go.tz/indexE.html>).

The Government of Tanzania has had an Agricultural Policy in place since 1983. Emphasis has been put on increased output and efficiency of agricultural production at the village level; timely delivery and efficient use of energy inputs into agriculture; increase in use of tractors and/or animal-drawn implements for farming; introduction of village-level transport and the use of small scale human or draught-animal-powered technologies; use of renewable energy resources; and introduction of improved efficiency barns for curing tobacco, drying tea, and smoking fish to reduce the use of woodfuel.

(<http://www.un.org/esa/agenda21/natlinfo/countr/tanzania/natur.htm>).

In its 1993-revised form, the policy has also underscored the promotion and adoption of environmentally friendly technology and methods through collaboration with other ministries and institutions, enhancing environmental awareness through education extension services, and undertaking further research and dissemination of sustainable agricultural practices. (<http://www.un.org/esa/agenda21/natlinfo/countr/tanzania/natur.htm>)

The Agriculture Policy of 1997 recognizes the need to improve agri-technics and agriculture practices, to enhance the agriculture activities for higher productivity. Labour-augmenting technologies is recognised as a key to agricultural development. As a policy, the government will establish effective information system on farm implements, machinery and equipment. The private sector will be encouraged to establish and run the tractor hire centres, own and run training centres. The government will provide extension and regulatory services. Agricultural mechanization is to ensure that farmers at all levels of production are knowledgeable about, have access, can choose and appropriately utilize sources of farm power, implements and machinery for mechanization.

Policy objectives include:

- To assure basic food security to the nation and increase nutritional standards.
- Production growth rates of food crops and livestock products should be at least 4% and 5% per annum respectively.
- To improve standards of living in rural areas through increased income from Agriculture and livestock.
- To increase foreign exchange earnings for the nation by increased production and exportation of cash crops.
- To produce and supply raw materials to local Industries both from crops and livestock.
- To develop and introduce new technologies so as to increase the productivity and labour and land.
- To promote integrated and sustainable use and management of natural resources.
- To develop human resources within the sector in order to increase the productivity of labour.
- To provide support services to Agricultural Sector, which cannot be provided efficiently by the private sector.
- To promote specifically the access of women and Youth to land, credit, education and information.

<http://www.tanzania.go.tz/indexE.html>

Communication and Transport

The development of the National Energy Policy, with its main objective to establish an efficient energy production, procurement, transportation, distribution, and end-use system in an environmentally sound manner, will effect the transportation industry. The strategies for implementing the policy include more efficient use of energy in the transport and industry sectors.

(<http://www.un.org/esa/agenda21/natlinfo/countr/tanzania/eco.htm#indus>)

Rehabilitation of infrastructure has also been accorded high priority. The Integrated Roads Programme (IRP) has made remarkable progress towards the rehabilitation of major roads in the country. The Government intends to strengthen this activity through improvements to the organizational, management, and financial arrangements for this sector. Divestiture plans are underway for the regional transport companies and the Plant and Equipment Hire

Company. Transportation sector competition is being promoted through the encouragement of private sector participation.

<http://www.un.org/esa/agenda21/natlinfo/countr/tanzania/inst.htm> (1997)

National Water Policy

The overall national objective of the Water Policy is to provide adequate clean and safe water within easy reach, to satisfy other water needs, and to protect water sources. Specific environmental objectives of the water policy include: protection of water catchment areas; promotion of efficient use of water; promotion of efficient water treatment, and waste water treatment; promotion of water recycling; institution of water charges that reflect full value of water resources; prevention of water pollution; and improved management and conservation of water bodies and wetlands.

<http://www.un.org/esa/agenda21/natlinfo/countr/tanzania/natur.htm> (1997)

The major sector issues addressed in the National Water Policy are grouped as follows:

- Beneficiary participation.
- Community based management.
- Improved integration of water and sanitation activities.
- Water resources and environmental awareness.
- External Support Agency Assistance.
- Institutional Aspects (sectoral and cross sectoral coordination).

<http://www.tanzania.go.tz/indexE.html>

Water Utilisation (Control and Regulation) Act, 1974

The regulatory and institutional framework for water resources management is provided for under the Water Utilisation (Control and Regulation) Act. No.42 of 1974, referred to as the Principal Act and its Amendment Act No.10 of 1981. The Act as amended, declares that all water in the country is vested to the United Republic of Tanzania, sets conditions on the use of water and authorises the Principal Water Officer with authority, to be responsible for setting policy and allocation of water rights at the national level.

This Act states that 'No person may discharge effluents from any commercial, industrial or other trade waste systems into receiving waters without consent by a water officer.' Holders of mining licenses are however exempt from obtaining a permit for diverting, damming, storing or abstracting water.

NEMC: Proposed Environmental Standards for Municipal and Industrial Wastewaters

The environmental standards drafted by NEMC and promulgated in 1997 provide guidelines for the general tolerance limits for Municipal and Industrial Wastewaters. Two drawbacks are apparent with these guidelines. The first is that they only cover a limited number of parameters and secondly the maximum permissible concentrations are deemed by many water quality analysts to be too low since even naturally occurring trace elements exceed guideline concentrations.

Ministry of Water Guidelines

These guidelines were circulated in 1999 and they contain two standards by which to assess the quality of water. The first is the World Health Organisation (WHO) standards and the second is the Tanzanian standard for rural water. The WHO standards for water quality differ slightly from the Tanzanian Standards in that their Minimum Permissible Concentrations are slightly stricter. One of the drawbacks of these regulations is that they don't include

standards for bacteriological results, for mercury and silver and some of the different forms of cyanide.

Livestock Policy

The policy aims at promoting the livestock industry so as to increase production and productivity to ensure that the nation achieves a per capita consumption of beef of 4.83 kg. per annum by the year 2005 (increase by 39%). This will enhance farmers' income, production of hides and exports of both live animals and other products.

Strategies to improve the livestock industry:

- Private sector is encouraged to participate in promotion of community-based management of livestock infrastructure; grazing lands, dips and range development.
- Strengthening extension services and research by both government and private sector participation.
- Encourage the pastoral communities to form savings and credit institutions such as saving, and credit societies, trust funds and rural banks and work with pastoral communities and develop appropriate credit systems.
- Establishment of livestock associations in the pastoral areas to enhance their bargaining and purchasing power in the supply of inputs, organizing the market of products and dissemination of new technology.
- Private sector will be encouraged to participate in processing and export of livestock products and livestock surpluses.
- Provision of marketing information by the government and on potential import markets.

Co-operative Policy, 1997

The 1997 Co-operative Policy commits government to play the role of facilitator and aims at adopting an integrated approach linking production enhancement with processing, marketing and the maximum use of lay-products to help farmers maximize their net

National Land Policy, 1995

Tanzania is characterized by a very unstable land tenure system. For sustainable and systematic utilization of land and land based natural resources, the new Land Policy was adopted in 1995. The policy addresses the challenges facing land-based environments like wetlands, valleys, migration corridors, and buffer zones. Pastoral tenure is also articulated in the Policy. The Ministry responsible for lands is working on translating this policy into legislation.

The National Land Policy reinforces the objectives of the Agricultural Policy especially in the treatment of shifting cultivation which contributes to land and soil degradation. It is stipulated in the National Land Policy that shifting cultivation will be controlled through the allocation of land to peasants on a tenure basis.

APPENDIX 3: DETAILS OF PREVIOUS AND ONGOING DONOR SUPPORT FOR ENVIRONMENTAL MANAGEMENT ISSUES IN TANZANIA

Government capacity building

The Vice President's office, through the Division of Environment, is implementing a capacity building project. Activities under the project include: preparation of national framework environmental legislation; preparation of environmental impact assessment guidelines; training of personnel; follow-up of activities in the implementation of international conventions; support for meetings and conferences; as well as purchase of office supplies and equipment. The project is being funded by the Norwegian Agency for Development Cooperation. (NORAD) and the United Nations Development Programme (UNDP). (<http://www.un.org/esa/agenda21/natlinfo/countr/tanzania/inst.htm>).

The Swedish International Development Agency (SIDA) funds training of NEMC staff on data base formulation and analysis related to pollution levels and control (<http://www.un.org/esa/agenda21/natlinfo/countr/tanzania/natur.htm>). The Swedish support to NEMC has concentrated on technical support through advisors and capacity building within the following areas : natural resources management; environmental education in school programmes; public awareness; legal issues; pollution prevention (<http://www.sida.se/Sida/jsp/Crosslink.jsp?d=294&a=1687>)

One of the important projects in implementing the Tanzania Forestry Action Plan (TFAP) has been the Forest Resources Management Project. The objective of the project is to improve the management of the forest and woodlands by strengthening the capacities of institutions responsible for developing and implementing forest and land policies (<http://www.un.org/esa/agenda21/natlinfo/countr/tanzania/natur.htm>).

The river basin management and small-holder irrigation improvement project aims to strengthen national capacity to manage water resources, and to address national water-related environmental concerns and those in the Rufiji and Pangani River Basins. Furthermore, it is intended to improve irrigation efficiency of selected small-holder traditional irrigation schemes in the river basins. The project is financed by the International Development Association (IDA) and implemented by the Ministries of Water and Agriculture. (<http://www.un.org/esa/agenda21/natlinfo/countr/tanzania/natur.htm>).

Assistance in the development of implementation strategies for policies and programmes

The long-term goal of a capacity building for environmental management and pollution abatement project is to improve the environmental condition in Mwanza, and consequently Lake Victoria. The project, funded by the Danish International Development Agency (DANIDA), is to be implemented in 1998-2000. It will promote environmentally sustainable socio-economic strength and development through the preparation of a dynamic strategic development plan and investment strategy to address problems of soil erosion, water pollution, solid and hazardous waste, and industrial waste-water. It also aims at increasing awareness and participation of stakeholders in the minimization and prevention of pollution. (<http://www.un.org/esa/agenda21/natlinfo/countr/tanzania/natur.htm>).

A study to develop a strategy for the conservation of coastal biological diversity of mainland Tanzania was completed by the Center for Environmental Engineering and Science Technologies (CEEST) under the auspices of the Tanzania Division of Environment, and funded by the World Bank. The study has identified some implications for specific biodiversity objectives in relation to sectoral programmes and forestry, agriculture, industry, and tourism interests in coastal Tanzania.

(<http://www.un.org/esa/agenda21/natlinfo/countr/tanzania/natur.htm>).

Development of regulatory systems and enforcement mechanisms

UNDP and the United Nations Environment Programme (UNEP) are collaborating on the Joint Project on Environmental Law and Institutions in Africa. The project aims at the review and harmonization of legislation relating to Forestry, Wildlife, Environmental Impact Assessment, Management of Lake Victoria, Management of Hazardous Wastes, and the formulation of environmental standards. The project is being implemented at the sub-regional level involving the three East African states of Kenya, Uganda, and Tanzania (<http://www.un.org/esa/agenda21/natlinfo/countr/tanzania/inst.htm>).

In addition, the Inter-regional Water Law and Policy Advisory Programme involving four countries, namely, Tanzania, Sri Lanka, Niger, and Uganda is funded by the Netherlands Government. A Review of the National Parks Legislation is funded by the United Nations Food and Agricultural Organization (FAO), while a Review of the Land Legislation is funded by the Overseas Development Organization of the United Kingdom (<http://www.un.org/esa/agenda21/natlinfo/countr/tanzania/inst.htm>).

The Equity and Growth through Economic Research (EAGER) project, funded by USAID, was in place for six years in Tanzania with 2000 being the final year of activity. EAGER supports economic and social science policy analysis in Sub-Saharan Africa with the primary goal of increasing the availability and the use of policy analysis by both public and private sector decision-makers. In addition to the goal of achieving policy reform, EAGER sought to improve the capacity of Tanzanian researchers and research organisations to contribute to policy debates in Tanzania. The project is implemented through a large number of organizations.

The Government, with assistance of the United States Aid for International Development (USAID), will support a five-year project on Participatory Environment and Natural Resources Management which will explore the best ways of involving local stakeholders in managing the environment.

SIDA funds projects that train NEMC staff in the preparation of environmental standards for water and air; and industrial pollution monitoring programmes in lake regions Morogoro and Dar es Salaam.

(<http://www.un.org/esa/agenda21/natlinfo/countr/tanzania/natur.htm>).

Support of environmentally friendly production processes and environmental management

A survey of 20 selected industries to investigate the relationship between production and electricity costs, and sensitivity of production costs to changes in electricity tariff has been implemented by the Tanzania Industrial Research Organization (TIRDO). Walk-through audits, semi-detailed audits, and full energy audits for 41 industries have also been implemented by TIRDO. These activities have been sponsored by the United Nations Industrial Development Organization (UNIDO), the Tanzania Investment Bank (TIB), and the World Bank.

(<http://www.un.org/esa/agenda21/natlinfo/countr/tanzania/eco.htm#indus>).

Taka is a Swahili word for waste and Takagas is therefore gas from waste. The goal of the Takagas project is to reduce emissions of greenhouse gases (GHG) in Tanzania by substituting bioenergy (methane gas and electricity), produced from anaerobic digestion of industrial and municipal waste in the Dar es Salaam area, for fossil fuels. Additional greenhouse gas reduction will be achieved by lowering the uncontrolled release of methane from improperly disposed organic waste. This will produce organic fertilizer. The plant will have the capacity to treat about 57 tonnes of organic waste per day, or about 3% of the daily waste generated in Dar es Salaam. The project combines methane emission reduction for GHG mitigation, with production of electricity, fuel for transport, and fertilizer. The installed capacity of the biogas plant will be 1 MW. The project is being funded by the Global Environmental Facility (GEF) and the Danish International Development Agency (DANIDA). This project is a collaborative effort of the Ministry of Energy and Minerals, the Dar es Salaam City Council, and the University of Dar es Salaam (<http://www.un.org/esa/agenda21/natlinfo/countr/tanzania/eco.htm#indus>).

SIDA funds activities in the area of pollution prevention and control include the promotion of awareness to users of chemicals in Lake Zone Regions.

A number of programmes and projects supporting biodiversity in Tanzania result from international co-operation. The Lake Victoria Environmental Management Programme is a joint initiative of the three East African countries Kenya, Uganda, and Tanzania. The objective is to implement a five year programme for strengthening regional coordination in the management of the Lake resources, including fisheries management, control of water hyacinth, management of water quality and land use, including wetlands. Formulation of the Programme was completed in December 1995. The project has secured funds from the World Bank and the Global Environment Facility (GEF) totalling US\$20.4 million. A secretariat is in place and implementation of the project started in March 1997. (<http://www.un.org/esa/agenda21/natlinfo/countr/tanzania/natur.htm>).

The Lake Tanganyika biodiversity and pollution control project is a five year regional project of the riparian states of Burundi, Tanzania, Zaire, and Zambia. The project aims to control pollution and to prevent the loss of the exceptional diversity of Lake Tanganyika. The preparation process, approved in September 1995, has commenced. The United Nations Development Programme (UNDP) and GEF are the funding agencies for the project which is expected to cost US\$10 million. (<http://www.un.org/esa/agenda21/natlinfo/countr/tanzania/natur.htm>).

Forestry development in the country is centered around the implementation of the Tanzania Forestry Action Plan (TFAP). Contained in the TFAP is a forestry development programme with eight action areas: a) sustainable land husbandry; b) community and farm forestry; c) forest management; d) bioenergy development; e) forest industries; f) beekeeping; g) wildlife management; and h) conservation of ecosystems and biodiversity. The components of the project include, among others: National Reconnaissance Level Land Use and Resource Mapping; establishment of a Tanzania Natural Resource Information Centre; forest resource management in Tabora, Mwanza, Singida and Shinyanga; improvement and monitoring of royalty collection; and capacity building and infrastructure support. (<http://www.un.org/esa/agenda21/natlinfo/countr/tanzania/natur.htm>).

Strengthening the involvement of NGOs and the public on environmental issues and management

The Forest Management Project mentioned above is also aimed at increasing the participation of the private sector and local communities in the management of forest resources. (<http://www.un.org/esa/agenda21/natlinfo/countr/tanzania/natur.htm>).

The establishment and dissemination of baseline data on large and small industry and its environmental performance, as well Tanzania's natural resources

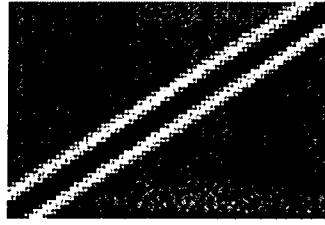
The overall objective of a National biological diversity country study project has been to gather and analyze biological and socio-economic data that would provide an information base for the development of national strategies, programmes, and action plans for the conservation and sustainable use of Tanzania's biological diversity. This study, covering the Tanzania mainland only, was undertaken between April 1995 to March 1996, with the consolidation of the report accomplished by October 1996. The study engaged local experts from Government and NGOs. The National Environment Management Council (NEMC) coordinated this project on behalf of the government.

(<http://www.un.org/esa/agenda21/natlinfo/countr/tanzania/natur.htm>).

The Tanzania Natural Resources Information Centre (TANRIC), established in 1994, has the mandate to collect and manage natural resources and environmental data. TANRIC is part of the Institute of Resource Assessment (IRA) of the University of Dar es Salaam. The Centre was established with funding from the World Bank as a component of the Forest Resource Management Project. The project is being implemented by the University of Dar es Salaam in collaboration with the Ministry of Tourism and Natural Resources, and the Soil Survey and Land Research Centre of Cranfield University in the United Kingdom.

(<http://www.un.org/esa/agenda21/natlinfo/countr/tanzania/inst.htm>).

Environmental management practices (monitoring, analysis, management, assessment etc.)



TANZANIA

ECOLOGICALLY SUSTAINABLE INDUSTRIAL DEVELOPMENT

A strategy for the implementation of an Ecologically
Sustainable Industrial Development programme for Tanzania

SUMMARY REPORT



The Government of Tanzania

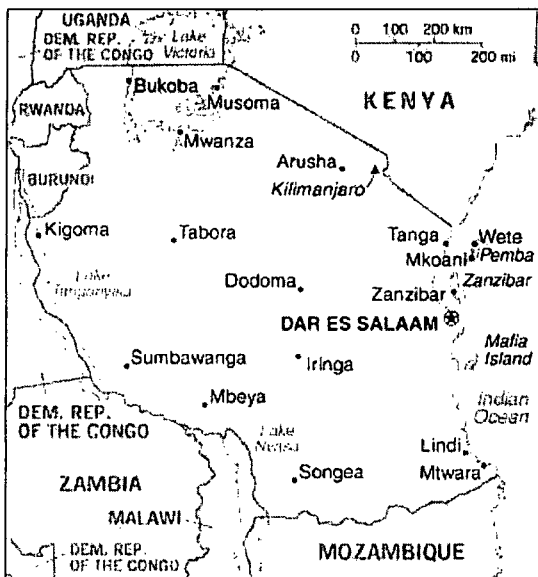


United Nations Industrial Development Organisation

ECOLOGICALLY SUSTAINABLE INDUSTRIAL DEVELOPMENT

A Strategy for the Implementation of an Ecologically Sustainable Industrial Development Programme for Tanzania

SUMMARY REPORT



INTRODUCTION

In 1996 the Government of Tanzania launched the Sustainable Industrial Development Policy (SIDP) (1996-2020) with the objective of enhancing sustainable development in the industrial sector. In order to support the effective implementation of the Policy and to overcome a number of constraints, UNIDO – in partnership with the Ministry of Industry and Trade – initiated an Integrated Programme for Tanzania. The objectives of the Programme are to provide support to the Government and private sector for the implementation of sustainable industrial development; to create and enabling environment for public-sector led industrialization; increase productivity and competitiveness in agro-industries; and to promote cleaner production and sound environmental management.

ESID

The concept of Ecologically Sustainable Industrial Development (ESID) was defined by the UNIDO Conference on Ecologically Sustainable Industrial Development to mean *those patterns of industrialisation that enhance economic and social benefits for present and future generations to meet their own needs and without impairing basic ecological processes*. The definition recognises that to achieve ESID, industrial development should meet three basic criteria:

1. Eco-capacity – the capacity of ecosystems to continue to function despite pollution;
2. Efficiency – the most efficient conversion of human, material and energy resources into industrial outputs; and
3. Equity – the equitable distribution of environmental burdens as well as the outputs of industrialisation across nations, segments of society and generations.

In order to support the SIDP and the activities of the Integrated Programme (Tanzania – Mainland) an ESID project has been proposed.

The objective of the ESID project will be to provide technical assistance to the Government of Tanzania in developing a nationally applicable, holistic environmental implementation strategy for the industrial sector as well as modalities/approaches to mitigate the problem of pollution. The project will, at its core, aim to support the relevant unit(s) in the Public Sector, in preparing a response to the environmental management requirements of the industrial policy, developing capacity to implement standards for industrial and related emissions; strengthen institutional capacities and relationships with relevant Ministries/units, institutions and stakeholders; develop a regulatory system for enforcement of the policy and strengthen the Departments' capacity to carry out inspections,

**SWOT ANALYSIS FOR THE
IMPLEMENTATION OF ECOLOGICALLY
SUSTAINABLE INDUSTRIAL
DEVELOPMENT**

STRENGTHS

1. Commitment to environmental issues in the Tanzanian government;
2. Strategic location of key environmental authorities in the VPO;
3. Good academic skills base through the Universities;
4. Well-established environmental networks.

WEAKNESSES

1. Unclear institutional structures and environmental responsibilities;
2. Limited infrastructure to implement environmental monitoring and auditing activities;
3. No environmental quality database;
4. Capacity in environmental enforcement is limited;
5. Environmental quality standards and guidelines not yet published;
6. Industries have limited understanding of environmental issues and do not invest in environmental improvements.

OPPORTUNITIES

1. Already established Cleaner Production Centre;
2. Industrial expansion strategy supported;
3. High demand for environmental capacity development;
4. Recognition of environmental issues within wide stakeholder group.

THREATS

1. Framework environmental legislation is not in place;
2. No regulations to support environmental enforcement;
3. Funding mechanisms for environmental activities are not sustainable;
4. EIA process is unwieldy and will be difficult to regulate;
5. Centralised environmental capacities resulting in reduced activities in the regions.

compliance and ambient environmental monitoring. In addition, the project will seek to enhance selected enterprises' capabilities in practicing environmentally friendly options in their production processes and in establishing linkage with institutions such as the "Cleaner Production Center" (CPC). It will also aim to strengthen the awareness of NGOs and the general public on industrial environmental impacts and to build up and disseminate baseline data on large and small industry in the country and its environmental performance.

AIMS AND OBJECTIVES OF THE ESID PROJECT

There are a number of strength, weaknesses, opportunities and threats to implementing ecologically sustainable industrial development in Tanzania. In response to the SWOT analysis, ecologically sustainable industrial development in Tanzania means: *Promoting industrial growth and advancement without compromising the natural resource base and social structures on which that growth depends.* The aim and end situation of this project, is to:

Have in place the environmental management and technology support structures for ecologically sustainable industrial development, sustained through a competent and well-resourced institutional arrangement and that involves the public and private sector and is regulated through an approved policy and legislation framework.

The Government of Tanzania will be the primary beneficiary of the project. For example, government officials will be the main recipients of competency development programmes and will manage the Environmental Information System and laboratory facilities. The provision of information on environmental impacts and quality will improve the decision-making process and will provide valuable information for policy development. Therefore, indirectly the information will enable academics, researchers and consultants to better understand environmental interactions.

The industrial sector will benefit through receiving support in their drive towards improved environmental performance. The sector will be in a position to understand their impacts on the environment as well to put in place arrangements that will improve the situation. Both of these factors

will enable the sector to compete more actively in the international market. In addition, the sector will benefit with reduced resource costs brought about through improved process efficiency and reducing treatment costs.

Awareness programmes are aimed at improving the general public's knowledge of environmental issues. In particular, NGO's, CBO's and other interest groups stand to benefit significantly from the project.

The environment, in its broadest sense and including social and natural aspects, will be the ultimate beneficiary of the project. The control of pollution will result in improved environmental quality and enhanced quality of life.

ESID PROJECT PLAN

The project will be implemented through the Ministry of Industry and Trade who are UNIDO's counterparts in Tanzania. The MIT will be supported by representatives from the Vice President's Office – including the Division of Environment and the National Environmental Management Council. The

project management structure recognises the roles of a Steering Committee which will evaluate the progress of the project, an Implementation Committee which will take responsibility of the day-to-day management of the project, a Project Manager, local and international consultants and government counterpart support staff.

The project plan has been prepared so as to meet 5 objectives as follows:

Objective 1: Awareness raising and capacity building

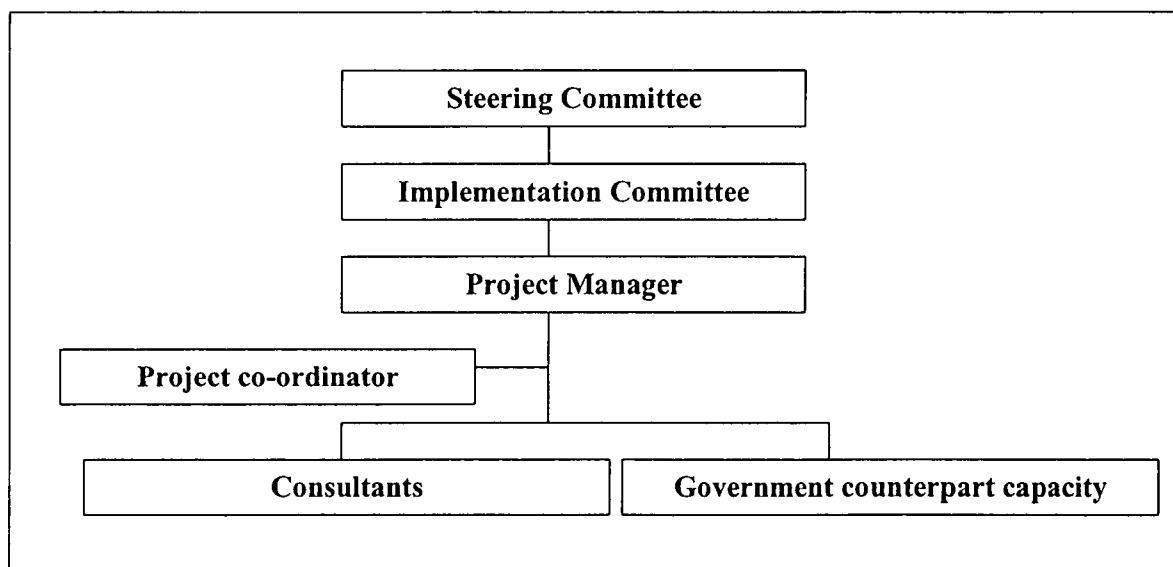
Objective 2: Implement policies and institutional structures

Objective 3: Develop environmental information system

Objective 4: Implement monitoring programmes

Objective 5: Implement environmental management and assessment systems.

The project plan should not be read chronologically but from a "time-elapsd perspective". The budget is estimated on the 2002 prices.



ID	Task Name	2002				2003				2004				2005				
		Qtr 1	Qtr 2	Qtr 3	Qtr 4	Qtr 1	Qtr 2	Qtr 3	Qtr 4	Qtr 1	Qtr 2	Qtr 3	Qtr 4	Qtr 1	Qtr 2	Qtr 3	Qtr 4	
1	Project Management																	
2	Identify and appoint the project manager																	
3	Establish the steering and implementation committees																	
4	Conduct training programmes for the steering and implementation committees																	
5	Prepare the detailed workplan																	
6	Prepare the Terms of Reference																	
7	Ongoing project management																	
8	Objective 1: Awareness raising and capacity building																	
9	Capacity building in Environmental Assessment and Management tools in Local Government																	
10	Environmental capacity building and awareness creation in the investment and industrial sector																	
11	EIA consultants capacity building: EIA Project Management Course																	
12	Awareness raising campaign among general public on industrial environmental performance																	
13	Objective 2: Implement policies and institutional structures																	
14	Support for the Institutional and Legal Framework for Environmental Management Project (ILFEMP)																	
15	Co-operative governance																	
16	Alignment of policies																	
17	Co-ordination of environmental management activities																	
18	Environmental input into industrial policy and planning																	
19	Integrating environmental considerations into the application form for certificate of incentives																	
20	Industrial involvement in policy development and implementation																	
21	Linking industry and international environmental policies																	
22	Objective 3: Develop environmental information system																	
23	Capacity building around the design of monitoring programmes, data collection, analysis and storage																	
24	Prepare and implement an Environmental Information System																	
25	Objective 4: Implement monitoring programmes																	
26	Framework to understand the environmental implications of industrial activities																	
27	Establish a system for auditing and evaluation																	
28	Preparation of monitoring specifications and guidelines																	
29	Objective 5: Implement environmental management and assessment systems.																	
30	Prepare guidelines on Environmentally Friendly Industrial processes (Sisal Industry)																	
31	SMME Environmental Management Manual																	

TASK	BUDGET ESTIMATE
<i>Project Management</i>	\$450,000
<i>Objective 1: Awareness raising and capacity building</i>	
Capacity building in Environmental Assessment and Management tools in Local Government	\$150,000
Environmental capacity building and awareness creation in the investment and industrial sector	\$100,000
EIA consultants capacity building: EIA Project Management Course	\$50,000
Awareness raising campaign among general public on industrial environmental performance	\$100,000
<i>Objective 2: Implement policies and institutional structures</i>	
Support for the Institutional and Legal Framework for Environmental Management Project (ILFEMP)	\$30,000
Co-operative governance	\$30,000
Alignment of policies	\$30,000
Co-ordination of environmental management activities	\$50,000
Environmental input into industrial policy and planning	\$60,000
Integrating environmental considerations into the application form for certificate of incentives	\$30,000
Industrial involvement in policy development and implementation	\$30,000
Linking industry and international environmental policies	\$50,000
<i>Objective 3: Develop environmental information system</i>	
Capacity building around the design of monitoring programmes, data collection, analysis and storage"	\$80,000
Prepare and implement an Environmental Information System	\$50,000
<i>Objective 4: Implement monitoring programmes</i>	
Framework to understand the environmental implications of industrial activities	\$30,000
Establish a system for auditing and evaluation	\$40,000
Preparation of monitoring specifications and guidelines	\$100,000
<i>Objective 5: Implement environmental management and assessment systems.</i>	
Prepare guidelines on Environmentally Friendly Industrial processes (Sisal Industry)	\$100,000
SMME Environmental Management Manual	\$50,000
Prepare a guide to EIA for the industrial sector	\$30,000
Prepare Strategic Environmental Assessment Guidelines for integrating environmental issues into industrial land use and sectoral planning processes	\$100,000

END OF PROJECT SITUATION

If the project is completed successfully, on completion of the ESID project Tanzania will:

- Have the institutional capacity to implement and sustain further ESID activities;
- Have an industrial sector that is aware of environmental issues and in a position to implement environmental improvement programmes
- Have implemented environmental awareness programmes with the population;
- Have developed an effective environmental information system that provides details of:
 - Ambient environmental quality;
 - Industrial environmental controls and performance; and
 - Status of environmental assessment and management systems.
- Have implemented monitoring programmes and put in place internal measures that ensure the long-term sustainability of the programmes; and
- Have implemented a policy-supported system for environmental management and assessment.