Danish Ministry of Foreign Affairs **Danida**

Project Document

Sustainable Tanga Programme (Danida Support Project)

Tanzania

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COMPONENT DESCRIPTION
COVER PAGE

Country	:	Tanzania
Sector	:	Environment
Title	:	Sustainable Tanga Programme (Danida Support Project)
National Agency	:	Ministry of Regional Administration and Local Government
Duration	:	5 years (first phase)
Starting Date	:	September 2001
Danish Budget	:	23,120,000 DKK
Tanga MC Budget	:	150 million TZS and in kind

Description:
Tanga is one of the 12 municipalities (included the three newly created municiplities in Dar es Salaam), identified by the Government of Tanzania to be included in the national Sustainable Cities Programme to promote environmentally sustainable urban development in Tanzania. Tanga Municipal Council established the Sustainable Tanga Programme in 1997.

The Development objective of Sustainable Tanga Programme (Danida Support Project) is to *Contribute towards improved and sustainable urban environmental conditions for the people in Tanga Municipality.* The Immediate Objective is: *By mid- 2005, Tanga Municipal Council and other important stakeholders work in partnerships towards the sustainable management of the environment in Tanga Municipality.*

At the start of the support project, selected demonstration projects will be implemented from the action plans developed over the previous two years by the working groups. Then the support will seek to regularise the environmental planning and management process of consultations, working groups, and action plans into the Tanga Municipal Council's annual planning cycle. The main outputs are increased capacity in relation to environmental planning and management in the Council overall, in the Sustainable Tanga Programme, in the working groups, and in all stakeholders involved in the process; others include increased capacity within the urban planning department, greater awareness of environmental issues and the environmental planning and management approach, updated environmental profiles, and improved strategies, action plans, project proposals, as well as the implementation of improvements.

The Programme is based on a participatory approach, one in which a broad range of stakeholders from civil society identify and prioritise measures to improve their environment, and where they, as the working groups, decide which priority projects should be implemented, and to monitor that implementation. The Programme is part of a democratisation process, involving both genders, and the whole range of society including the poorer strata. The target is to give people a voice and a hand in the improvement of their environment and living conditions.

The Danida Support Project will provide technical assistance and a financial facility of DKK 10 million to support implementation of projects on an annual basis from action plans at community and municipal levels, and in projects for industries, businesses and the informal sector. The project will operate under a management team including the Municipal Director, the Sustainable Tanga Programme Coordinator, and the Danida-funded Technical Adviser. The STP Danida Support Project constitutes part of Component B of the Environmental Support Programme to Tanzania.

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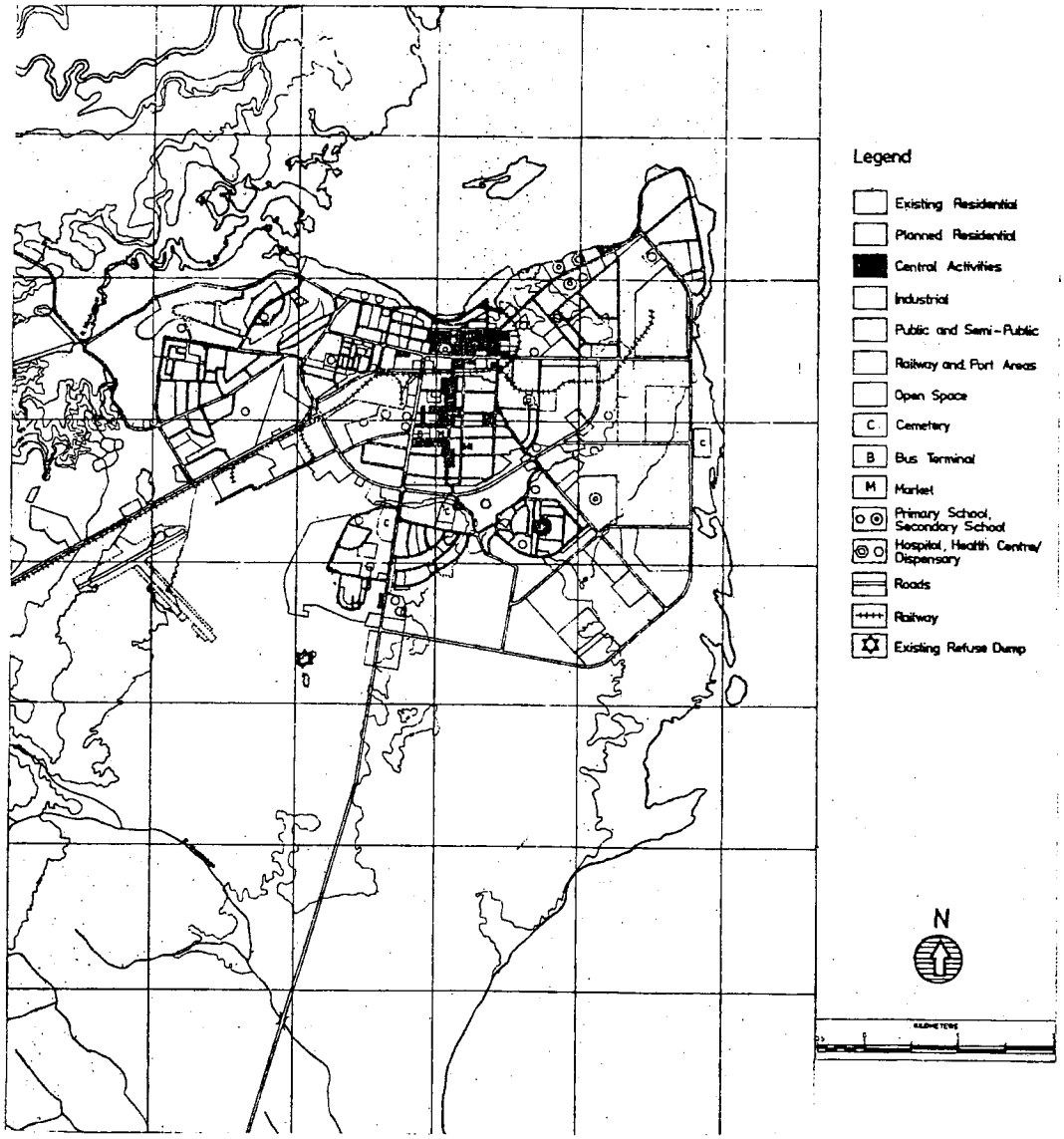
Tanzanian Government Representative	Date	Danish Government Representative	Date

MAP OF TANGA


Legend
Existing Residential
Planned Residential
Central Activities
Industrial
Public and Semi-Public
Railway and Port Areas
Open Space
C Cemetery
B Bus Terminal
M Market
Primary School, Secondary School
Hospital, Health Centre/ Dispensary
Roads
Railway
Existing Refuse Dump
N

List of Abbreviations

AP	Action Plan
AFD	Agence Français de Développement
CBO	Community Based Organisation
CPT	Cleaner Production Technology
Danida	Danish International Development Assistance
DKK	Danish Kroner
EDF	Environmental Development Fund
EIS	Environmental Information System
EMIS	Environmental Management Information System
EMS	Environmental Monitoring System
EPM	Environmental Planning and Management
EPSF	Danish Environment, Peace and Stability Facility
GIS	Geographic Information System
MIS	Management Information System
MMT	Municipal Management Team
MRALG	Ministry of Regional Administration and Local Government
Mtaa	Neighbourhood/street, lowest administrative level in urban centres
NEMC	National Environment Management Council
NGO	Non Governmental Organisation
PORALG	President's Office of Regional Administration and Local Government
PSC	Programme Steering Committee
RDE	Royal Danish Embassy, Dar es Salaam
SAP	Sustainable Arusha Programme
SCP	Sustainable Cities Programme
SDP	Sustainable Dar es Salaam Programme
SIP	Sustainable Iringa Programme
SMWP	Sustainable Mwanza Programme
STP	Sutainable Tanga Programme
SUDP	Strategic Urban Development Plan
TA	Technical Adviser
TANESCO	Tanzania Electricity Supply Company
TMC	Tanga Municipal Council
TNA	Training Needs Assessment
TZS	Tanzanian Shilling
UASU	Urban Authorities Support Unit
UCLAS	University College of Land and Architectural Studies
UNCED	The United Nations Conference on Environment and Development or "Earth Summit" in Rio de Janeiro in 1992
UNCHS	United Nations Centre for Human Settlements (Habitat)
UNDP	United Nations Development Programme
USD	US Dollar
UWB	Urban Water Board
WEO	Ward Executive Officer
WG	Working Group

1 DKK = 99.01 TSH 1USD = 8.02 DKK (December 2000)

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EXECUTIVE SUMMARY

The Government of Tanzania began the Sustainable Cities Programme in Dar es Salaam following the United Nations Conference on the Environment and Development in Rio in 1992. In 1997 the Sustainable Tanga Programme was established as part of a nationwide replication. The Programme aims at incorporating the environmental planning and management concept in Tanga. The target is to enable sustainable environmental development through the involvement of all stakeholders in the Municipality. Tanga developed an environmental profile in 1998, and held municipal consultations in May 1999 for 300 or so participants from a range of civil society. Some of the working groups formed from this consultation have developed initial plans, and are implementing 2 demonstration projects.

Tanga is Tanzania's second port, in the north-east corner of the country. It has an estimated population of approx. 200,000 people, the Municipality covers 536 km^2 and is comprised of 24 wards and 23 villages. The economy is centred around the port, which currently handles some 75,000 tons per year in exports (coffee, sisal and seed beans); industry is running at an average of 22% of installed capacity, with the largest industries at present being the cement and detergent factories. There is recent active investment, but red tape is a significant deterrent in Tanzania. Tanga has good rail, port, road and airport access, but these are under-utilised. In the context of Tanzanian municipalities, Tanga Municipal Council has a reputation of being one of the best in terms of well-meaning responsibility towards their town in spite of the problems they face.

The main environmental problems faced in Tanga are inadequate drainage and sewerage, linked to high prevalence of malaria etc., inefficient solid waste collection and disposal, unplanned settlements – some in flood prone areas, unserviced settlements – those without most basic services, pressure on coastal resources, unregulated building material extraction, water pollution including that from industrial sources, and the environmental effects of a poor revenue base, weak institutional arrangements and poverty. Working groups have formed around some of these issues only.

The Sustainable Tanga Programme is a long term process, and the Danida Support Project represents an initial five year support to that process. The Development objective of the Danida Support is to: *Contribute towards improved and sustainable urban environmental conditions for the people in Tanga Municipality.* The Immediate Objective is: *By mid- 2005, Tanga Municipal Council and other important stakeholders work in partnerships towards the sustainable management of the environment in Tanga Municipality.*

At the start of the support project, selected demonstration projects will be implemented from the action plans developed during the two previous years. Then the project will seek to regularise the environmental planning and management process of consultations, working groups, and action plans into the Tanga Municipal Council's annual planning cycle.

The main outputs are increased capacity in relation to environmental planning and management in Tanga Municipal Council overall, in the Sustainable Tanga Programme, in the working groups, and in all stakeholders involved in the process; others include increased capacity within the urban planning department, greater awareness of environmental issues and the environmental planning and management approach, updated environmental profiles (linked to an information system) and improved strategies, action plans and project proposals. A fund will be established to support implementation of projects on an annual basis from action plans at community and municipal levels, and in cleaner production projects for industries, businesses and the informal sector.

The Sustainable Tanga Programme is based on a participatory approach, one in which a broad range of stakeholders from civil society identify and prioritise measures to improve their environment, and where they, as the working groups, decide which priority projects should be implemented, and to monitor that implementation. The programme is part of a democratisation process, involving both genders, and the whole range of society including the poorer strata. The target is to give people a voice and a hand in the improvement of their environment and living conditions.

The strategy of the Sustainable Tanga Programme is that a popular "mandate" is taken from municipal consultations, which include stakeholders from all of society (civil, private, and public, including the Tanga Municipal Council, non-governmental and community based organisations, industry, the elderly, young, and women's groups, and parastatal organizations such as the utility service providers). These consultations decide on priority environmental issues to address, and working groups are formed to address them. With technical and management support at all levels from the programme, the working groups develop broad strategies, and prioritised action plans - projects to implement – to address the environmental issues. These are subsequently presented to the TMC for approval. The aim is to incorporate these into the annual municipal planning cycle, and to provide support from a fund – the Environmental Development Fund – to implement the projects. It is proposed that after an initial group of demonstration projects at the Project start, projects will be planned and implemented annually.

The projects will seek to support the decision-making of the working groups, and will seek to develop and build capacity and environmental awareness in them, in the Tanga Municipal Council, and in Tanga as a whole. The Sustainable Tanga Programme (Danida Support Project) will be overseen by a Programme Steering Committee composed of members from the Municipal Council and a broad range of Tanga civil society. The day to day programme management will be undertaken, as a present by the Sustainable Tanga Programme Coordinator, but with additional support from a Danida-funded Technical Adviser, and a significant component of other technical short-term expertise.

The Municipal Council of Tanga will provide an annual sum of TZS 30 million, the full-time Sustainable Tanga Programme Coordinator, a secretary and an accountant, office space, and the participation of municipal professional and support staff.

Danida's input will be technical assistance, transport, office equipment, office running expenses, and support to the establishment of an environmental management information system. Danida will further provide an input for the Environmental Development Fund (EDF) of initially 10 million DKK over the five-year period for implementation of specific project activities. Danida's total input will be 23.1 million DKK.

Preconditions for the support project are that the Sustainable Tanga Programme Coordinator be available as agreed, that the municipal financial contributions are provided, and that suitable office space and utilities are made available. Risks which have been identified include insufficient support for environmental issues from the grass root and industrial levels, discontinuity in Tanga Municipal Council staff or a resistance to change, an inappropriate legal framework, the short term nature and limited scope of the funding, and uncertainties relating to the effects of other local government programmes.

An implementation plan, covering the first year to the Project, will be developed in appropriate detail during the first three months of the Support Project and presented in an inception report; after this the project will submit bi-annual reports and annual work programmes to the Programme Steering Committee and to Danida. Project reviews will be carried out after 15 and 39 months.

1. INTRODUCTION

1.1 Background

After the United Nations Conference on the Environment in Rio in 1992, UNCHS and UNEP jointly established a Sustainable Cities Programme aimed towards improving environmental planning and management in demonstration city projects globally. One of the first such city demonstration was the Sustainable Dar es Salaam Project (SDP) which began in 1992.

In October 1997, the Tanzanian cabinet approved the National Environmental Policy for Tanzania. The overall objective of the policy is to attain sustainable social and economic development through sound environmental management. The policy relates to a large number of areas including macro-economic policies, environmental planning, impact assessment, education and public awareness, private sector and community participation, urban and industrial pollution and cross-sectoral institutional co-ordination and legislation.

Also in 1997 The Government of Tanzania decided to replicate the environmental planning and management process from the SDP in nine further municipalities with support from UNDP. This programme is entitled "Promoting Environmentally Sustainable Development in Tanzania", and is also known as the known as the Sustainable Cities Programme (SCP). The Sustainable Tanga Programme was thus established in 1997 by the Municipality of Tanga with support from the UNDP/Government. The Urban Authorities Support Unit (UASU) was formed later in mid-1998, under the Ministry of Regional Administration and Local Government (MRALG), to facilitate and co-ordinate support to the National SCP including the Sustainable Tanga Programme. The Office of Regional Administration and Local Government is now under the President's Office (PORALG).

In 1993, and also as follow up to the Rio Conference, the Danish government had set up a special facility aimed at supporting efforts to reduce global environmental problems, now known as Environment, Peace and Stability Facility (EPSF). The financial resources of EPSF are additional to funds granted under the official Danish development assistance. Being one of the selected countries to benefit from EPSF, Tanzania now receives environmental programme support, which has recently been refined to comprise natural resource management and bio-diversity conservation and urban environmental management. The urban environmental management component includes support to the development of an adapted environmental planning and management process in municipalities.

Preparations for Danish support to urban environmental activities in Tanzania started in late 1996, and led to the implementation of a support project in Mwanza from March 1998. A support project for Iringa Municipality was approved in March 1999, and a support project covering Arusha was approved by the Danida Board in May 2000. The proposal to support Tanga Municipality was made in March 1999 during the annual consultations between Denmark and Tanzania. In addition, discussions are ongoing in regard to the development of a wider component description for the Danish support to the municipalities involved in the SCP.

1.2 Environmental Planning and Management and Sustainable Cities

The aim of environmental planning and management is towards achieving sustainable development in cities through improved environmental information and technical expertise, improved environmental strategies and decision-making, and improved implementation of environmental strategies.

Environmental planning and management is a concept rather than a fixed design, which stresses broad-based participation involving stakeholders in the planning process. The process is one of democratisation with a focus on consensus building across technical, political, social and economic interest. This facilitates implementation and long-term sustainability. In the SDP, as in other sustainable cities, the environmental planning and management process followed three broad phases:

- Assessment and start-up
- Strategy and action planning
- Follow up and consolidation (implementation, and the process is made routine)

In general terms, the environmental planning and management process involves:

- Deciding which environmental issues to address
- Involving all whose cooperation is needed (stakeholders)
- Developing strategies on specific environmental issues and overall environmental management
- Deciding upon environmental action plans
- Implementing priority projects and programmes, and
- Strengthening local planning and management capacities

These have been formalised into certain steps, each with its own "EPM" terminology (which can be somewhat confusing or off-putting for those unfamiliar at first). These steps follow a logical pattern and have sound ideas and reasoning behind them, and the paragraphs below are an attempt to describe in broad terms what these are :

- Preparation of an *Environmental Profile* - Broadly speaking this sets out the environmental issues and problems in a city/municipality, and identifies all parties who have an interest in addressing and managing them and who are affected by them. Such issues cover a wide range, but for example would include solid waste (rubbish), water pollution, de-forestation, erosion, etc.. Regular update of the Environmental Profile is required.

- Holding a *City/Municipal Consultation* – This is a meeting of (hopefully) all the stakeholders (concerned parties who have a stake in the environmental issues). This consultation may take up to a week initially and should be updated regularly afterward. Stakeholders discuss the environmental issues in an open and democratic forum, and decide which ones are the priority ones to address. At the end of the session, stakeholders decide which issues they would like to be involved in addressing, and form into:

- *Establishment of the Working Groups* – These form the heart of the environmental planning and management process. The main aim of these groups is in fact to make decisions relating to actions to improve the environment. These decisions are brought to the Municipal Management Team and later approved for funding by the Tanga Muncipal Council. This decision making by the Working Groups should be open and democratic, and clearly the composition of the working groups is crucial to this. The working groups, and the consultation, which formed them give a mandate to the measures undertaken. It is this mandate and the participatory nature of the working groups that can make the decisions and actions taken by the municipal authority genuinely popular and desired by a broad range of society, and contrast with the centralised decision making in former "master" plans by the municipal authority (or central government authority) developed in the past. It is also worth bearing in mind that working groups are temporary, and form to develop environmental management plans for a certain issue (or part of one). They may

then dissolve, or continue supervising the implementation of the actions plans produced, as needed.

Working groups may be at the city/municipal level, and there may be sub-groups under them (for example at the ward or *mtaa* level in Tanzania) to discuss local issues. "Working Groups" as a term is a bit misleading, in that they are really about participatory and democratic decision-making, based upon considerations of views of concerned parties (stakeholders), and on information provided to them – this might for example include feasibility studies, surveys, etc.. i.e. work – carried out. The degree to which working group members do the "work" themselves is a decision of theirs or the group they may represent. Having considered the information available to them, working groups produce:

- *Strategies and Action Plans* - Broadly speaking what to do and how to go about it. Working groups decide on strategies to address the environmental problems (e.g. privatisation to address solid waste collection problems, etc..) having discussed options available, including available resources (financial, material, capacity, etc…) and prioritised on a broad-based consensus (bearing in mind this may involve the resolution of specific conflicts). The actions themselves are essentially measures to be undertaken and might be material – a project – or other measure (e.g a bye-law, a training programme, etc..). Having decided what to do, the working groups set about:

- *Implementation of Action Plans* - Plans are implemented and monitored by involved stakeholders and the municipal authority. In some cities, for example Dar es Salaam, the strategies and action plans are then incorporated into a:

- *Strategic Urban Development Plan* – These are an overall plan incorporating those above, again developed in a participatory way. They include plans for land use, infrastructure, social services and environmental management; they also describe planning mechanisms and the participatory approach to the continuous development of a sustainable city. It should be noted that at present there is some confusion as to these in Tanzania, as they do not have a legal standing at present.

- One aspect of the environmental planning and management concept sometimes overlooked in its application is the need for further city consultations as time goes on. Known as *"mini" consultations*, they may be held to incorporate new environmental issues, and to form new working groups again with a wide participatory mandate. Such consultations may also be held in the same manner as the original one, to review priorities, strategies, and actions put forward, or to decide a new focus of activities for the sustainable city programme.

One of the features of the Danida support projects to sustainable cities in Tanzania has been the provision of financing for pilot and demonstration projects, as lack of such funds was one of the problems which plagued some of the cities in the earlier global program – lots of plans and few funds with which to implement them. It is expected that these demonstration funds (known in Danida supported urban environmental projects as Environmental Development Funds – EDF) may overcome some of the difficulties. It is worth bearing in mind, however, that some if not most of environmental issues in cities are large long term problems.

1.3 The Sustainable Tanga Programme and the Environmental Planning and Management Process

The Sustainable Tanga Programme was established in 1997. It is firmly established within the municipal structure and a number of steps have been taken in following a participatory environmental planning and management process:

An environmental profile was finalised in November 1998 and updated in October 2000,
A Municipal Consultation was held in May 1999, which led to the formation of
10 working groups on priority issues:

- Unplanned Settlement Upgrading
- Liquid Waste Management
- New Markets
- Environmental Sanitation
- Environmental Education
- Deteriorating Economy
- Street Lights
- Non-motorised Transport
- Expansion of Bus Stand
- Development Control

Following the Municipal Consultation working groups have been active to varying degrees: from having met once or twice, to having implemented projects. Some 72% of the members are governmental, which is not optimal in terms of broad based participation an decision-making. Progress has perhaps been better than one might expect with available resources and the level of support to date, which have both been rather limited.

The most active working group to date have been the groups on Street Lights and that of New Markets. The Street Lights group, although not addressing an environmental issue as it is defined by Danida guidelines, nonetheless developed a strategy and an action plan following the participatory planning and management process, and using the Tanga Municipal Council's own sources, implemented the improvements and have completed their task.

The New Markets group has also been very active, soliciting funds from the national SCP Action Plan Implementation Facility, a contractor had been awarded a market construction contract and was in the process of mobilising the site

A comprehensive description of the environmental issues in Tanga, and the stakeholders in general is given in Chapter Two below.

2. CONTEXT, NATIONAL MANAGEMENT OF THE PROJECT AND NATIONAL INPUTS

2.1 Socio-Economic Context and Policy Framework

2.1.1 National Context

Tanzania is administratively divided into 20 regions on the mainland and five regions on the Islands of Unguja and Pemba which constitute Zanzibar. The country covers an area of 942,784 sq. km. and slightly over 30 millon people, having increased from 23.9 million people recorded in the 1988 population census. This increase corresponds to an average growth of 2.9 per cent per annum.

It is estimated that at least 30 per cent of the total population live in several urban centres, Dar es Salaam being the largest where about 3 million people are believed to be living. The proportion of urban population compared to the total has grown from 2.7 per cent at the time of independence in 1961 to 5 per cent in 1967, 12.7 per cent in 1978, and 16 per cent in 1988.

Since mid 1980s Tanzania has beeen implementing structural adjustment programmes aimed at reforming its ailing economy. Such programmes have entailed trade and foreign currency liberalisation, removal of subsidies on consumer commodities, services and agricultural inputs, privatisation and encouragement of private sector investments, financial reforms, civil service and local government reforms.

Among other policy implications, these reforms have meant a withdrawal of the government from its traditional role of being a producer and provider of services to being a facilitator of the private sector and communities in the provision of the same. The reforms have also involved reduction of government size and subsequently retrenchment of a significant proportion of civil servants and other public employees who worked for non-performing parastatal organisations which have since been privatised or dissolved. An informal sector that already in 1991 was providing about 56 per cent of the total urban employment has been the main alternative employment sector and source of income for some of those retrenched. These reforms have had mixed results on the social and economic well-being of the people who have increasingly found it difficult to cope with the need to pay for social services hitherto provided free of charge or subsidised by the government.

On the other hand, the fiscal discipline practised by the government since 1995 including tight government spending, and enhanced tax collection have contributed to dramatic fall of inflation from over 20 per cent in 1995 to 6.5 per cent in the first half of year 2000, while the economic growth rate of 4.5 per cent has been recorded during the same period.

However, the country experiences several economic hardships to include insufficient formal employment opportunities even for university and college graduates, external debts, and inadequate socio-economic infrastructure and services.

The per capita income in Tanzania is currently estimated at US $ 210 and about half of the population, majority of which are living in the rural areas is considered poor. The poverty reduction strategy (1998) reports that literacy, which had reached 90% in the 1980s has dropped to 68%.

2.1.2 Tanga Municipality

Tanga municipality, the oldest in the country following its establishment during the colonial period, covers an area of 536 square kilometres within latitudes 4 and 6 South and longitudes 37 and 39.10 East. The second largest port in Tanzania, regional administrative and commercial centre for Tanga region, Tanga municipality is located 360 kilometres north of Dar es Salaam (the country's major port, administrative and commercial centre). Tanga is well connected to Moshi (350 km), Arusha (440 km), and Morogoro (440 km) by a reliable road and railway. It is also connected to Mombasa (168 km) by a gravel /tarmac road. Moreover the town has an airport, but at present there is no regular flight service.

Due to its location along the coast, Tanga experiences humid climate with temperatures ranging from 25 C to 32 C depending on the season. The town experiences two rainy seasons, long rains in March - May and short rains in October - December.

2.1.3 Population

The present population of Tanga municipality is 211,965 inhabitants (direct count made in 1999) having grown from 187,455 people recorded in the 1988 population census. This implies an annual growth rate of 1.1 per cent, which is the lowest since the pre-independence period (the town of Tanga grew at an annual rate of 11.4 per cent in the 1950s; 4.8 per cent between 1957-67; 4.8 per cent between 1967-78; and 8.1 per cent between 1978-88).

Table 2.1 Population of Tanga by Ward

Ward Branch	Classification	1988	1999
Central	Urban	7,360	5,211
Majengo	Urban	8,705	7,898
Nguvumali	Urban	13,247	14,274
Chumbageni	Urban	14,180	13,568
Ngamiani Kaskani	Urban	5,154	3,818
Ngamiani Kati	Urban	7,240	5,297
Ngamiani Kusini	Urban	8,757	8,925
Usagara	Urban	14,672	9,959
Makorora	Urban	14,628	15,053
Mzingani	Mixed	8,121	18,930
Msambweni	Urban	3,713	3,952
Mwanzange	Urban	11,701	7,523
Tangasisi	Rural	8,883	9,206
Mabawa	Urban	13,281	24,829
Tongoni	Rural	3,633	4,100
Marungu	Rural	1,939	3,397
Pongwe	Rural	8,217	9,231
Maweni	Rural	7,844	7,700
Dua	Rural	3,773	12,905
Mzizima	Urban	7,069	8,645
Mabokweni	Rural	7,035	4,242
Kirare	Rural	3,063	4,039
Kiomoni	Rural	4,634	2,499
Chongoliani			4,763
Total		188,837	211,963

Source: Project Support Identification Report, Danida, January 2000

The dramatic fall in the annual growth rate can be explained by the gradual decline and almost collapse of the sisal industry on which the growth of the town economy relied upon. As shall be indicated below Tanga depended heavily on the sisal crop that was introduced by Germans in 1882. The sisal industry required large amount of labour, which migrated from other regions to include Tabora, Mtwara, and Morogoro. As a consequence the town grew rapidly in the 1950s. Following the decline and almost total collapse of the sisal industry the town is experiencing a record low growth of 1.1 per cent.

2.1.4 Gender Situation

In the urban context, gender equality would include equal access to and control of strategic resources such as building plots or property and income generated from rent; equal access to information and knowledge and other social and economic opportunities; and equal opportunity to participate in the political process to include in decision-making at household, Sub-ward, Ward and Council level. In the environmental planning and management process, gender issues have to be considered when developing an environmental profile. This ensures gender responsive planning. The inclusion of gender issues into the Sustainable Tanga Programme is given extensive emphasis because it has been observed that both men and women play important but different productive, economic and social roles. It has also been observed that there are gender differences in the activities carried out, resource ownership and use patterns, labour, equipment, and income.

Basing on the recent gender profile for Tanga Municipality, there are notable changes in the gender roles, which have taken place in the past ten years whereby women are increasingly taking roles, which were formerly assumed to be men's. The new roles that are being taken by women include but not limited to leadership positions at all levels, working in traditionally male dominated jobs like quarrying, construction, trench digging etc, engaging in micro enterprise and heading households to mention but a few examples. This gender trend allows for more equal participation between men and women in managing the environment within the Municipality. It is also evident from the gender profile that women rights are increasingly being legally recognised and legal changes are being made to protect women. This gives the implication that women can be involved more in public activities and their full participation can be realised.

On the other hand the gender profile reveal that some changes are also taking place regarding men and their relationship to women and perception towards gender division of labour. Men are now sharing some of the gender roles in the household especially those with devices to perform e.g. using bicycles to fetch water, collect firewood etc. These are the roles, which were previously predominantly taken up by women. Men now work together with women in some activities and are increasingly permitting their wives and daughters to take jobs outside the home and to and attend meetings. At the household level, more men are leaving family leadership to women and accepting to have joint decision making and property ownership with women. However, the gender divisions of labour outside the household reveal that women still do more tasks than men do.

Important to all is the fact that there is a notable change on the general attitude towards women at all levels. Even at household level women or girls are increasingly being allowed and are getting time to attend formal education. As a result women are increasingly becoming more educated and are studying the professions formerly assumed to be men's. Through government Universal Primary Education (UPE) policy for example, positive changes in attitude towards educating girls are evident.

The situation analysis in the gender profile indicate that women constitute a minority among the employed and leaders and that they have a limited choice of employment and participation

within the Municipality activities. They still do most of the household work from childhood to old age. At household level, it is the girl child who contributes more labour than the boy. This requires careful planning on how to involve women of all ages in environmental activities.

As for access and control of resources, it is true that men still have better access to all resources compared to women. This requires increased support to women activities in terms of capital and other required inputs whenever possible. The Ministry responsible for Women Affairs, and the Ministry for Youth Development provide credit facility for women and youths respectively. The credit facility is managed by Tanga Municipal Council which provide special credit to women and youths to facilitate them to carry out some business or economic activities.

The perception among men and women on environmental issues do not seem to differ significantly although there are differences in prioritisation of the issues. While men prefer addressing issues related to infrastructure, women would first go for environmental issues around their home. This means that men and women should sit together to identify and prioritise environmental issues within their localities. Compromises will have to be aimed at taking into account the interests of both women and men.

Looking at self-organisation, women seem to be more organised in-groups than men are. Currently there are 1416 women groups within the Municipality (Gender Profile Report, 2000). Efforts to form mixed groups have not been very successful (although it is a requirement by the Ministry responsible for youths) partly because of the patriarchal domineering character of the men, religious inhibition and traditions that still restrict women. Men are not organised in-groups but this ought not to limit their inclusion when addressing gender issues because men can also participate in various ways to manage the environment.

What is important is allowing for flexible mechanisms, which will give equal opportunities for all men, women, youths, children and the aged. However, most of the activities done by women and youth groups concentrate along their daily roles and their businesses involve low capital, limited skills, small profit margins, high risks and have limited market opportunities. This is likely to bring the attention of the project so as to increase their capacities and hence improve their activity performances.

Most of the activities performed within the Municipality do not take into consideration the impact on the environment. To ensure that environmental impact assessment is always taken on board, it is important to involve both men and women through awareness raising on the effect of their activities to environment and educate them on the best ways of performing the same activities without degrading the environment. This is emphasised because gender blind strategies are less likely to improve the environment. Positive measures tend to incorporate all i.e. men, women, boys, girls, youths, the old and children. Currently there is need to develop strategies, which give preference to women until when women and men reach a level where they are equal. This ought to start at family level where women are to be given equal or higher chances of education, resources ownership and decision making powers and at community level where women are to be given more chances to lead, plan and make decisions.

The Sustainable Tanga Programme has to give equal opportunities to both men and women so as to ensure their participation in environment management. This requires encouragement efforts on the part of women as the majority still lack confidence and awareness raising on the part of men as some do not accept women as equal partners. The level of skills and knowledge required by the programme and those possesed by men and women need to be looked at carefully and where necessary these have to be improved accordingly.

Other efforts to be considered by STP so as to ensure that the project takes into consideration the gender issue and the involvement and participation of all stakeholders may include the following:

- Creating gender awareness among men, women and project and Municipal staff on gender concepts and issues
- Availing gender analysis training to relevant Municipal staff and other participating agencies like NGOs and local leaders
- Addressing gender issues at all levels especially in communities
- Creating convenient working environment that is supportive to specific gender needs i.e. allocating mothers environmental tasks around their homes
- Providing gender balanced training, promotion of staffs, recruitment of casual labourers etc.
- Ensuring a gender balanced involvement and participation in all STP forums
- Undertaking constant gender sensitive reporting and research activities.
- Assisting the attainment of some training in skills like project organisation, marketing strategies, management etc. for people engaged in income generating activities.
- Encouraging and supporting individual or community based income-generating activities undertaken by people of all gender and age, which are related to the environment such as recycling or collection of wastes etc.
- Introducing and promoting environmental friendly technologies to all the supported efforts.

2.1.5 Socio-Economic Environment

For a long time the economy of Tanga municipality depended on sisal as its engine of growth. This was complimented by at least 30 industries, - 23 privately owned and 7 state owned and managed, but all these (except one which is closed) have since been privatised in line with the World Bank and International Monetary Fund prescriptions aimed to improve the ailing economy.

Following the nationalisation of the sisal farms after the Arusha Declaration in 1967 and the low prices of sisal in the world market the sisal industry was negatively affected thus leading to the decline of its importance. The poor performance of the national economy since the 1980s affected industries so that average capacity utilisation was reduced to 22 per cent. Some industries are still operating at reduced capacity while three major industries, namely, Tanzania Fertiliser Company, Steel Rolling Mills, Tanga Diaries are currently out of operation. Most of current industry is composed of small-scale activities (SMEs) and include home-based activities such as food processing. Other industries in operation today include: an abattoir, a sack company, a sawmill, FOMA (a soap manufacturer), cement, PPTL (plastic containers), a textile factory that is expected to grow, and in the future, there are plans to revive steel rolling.

The decline of sisal industry and industrial production in general have had adverse affect to the Tanga port in particular which is currently operating at minimal capacity. Considering that the port, sisal industry, steel rolling mills and fertiliser factory were the major employers in Tanga, their poor performance or total closure has greatly reduced employment in the formal sector. This has been aggravated by the retrenchment exercise as earlier indicated.

As a consequence the informal sector, mainly involved in trade activities, has been on the increase as an important source of employment and income. Likewise, urban agriculture, particularly livestock rearing, is featuring as an increasingly important source of employment

and income. The contributions of these activities to the urban economy need to be recognised and a strategy to facilitate their operations has to be put in place and operationalised.

Like all other urban centres in this country, Tanga Municipality faces poverty problems arising from the poor performance of both the national economy and its urban economy. However, unlike many other towns in Tanzania, which are currently experiencing rapid growth of their urban population such as Mwanza, Arusha and Mbeya, Tanga is currently experiencing very slow growth of the urban population. The immediate problem for Tanga is therefore not so much about how to cope with rapid growth, but how to sustain the existing level of development and reduce poverty and how to take the precautionary measures to deal with environmental issues as the economy hopefully picks up.

2.1.6 Agriculture

Agriculture is one of the important economic activities for the residents of Tanga Municipality. It is the main economic activity for the majority of those living in the rural part of the municipality as well as an important source of food and supplementary income for the employees whose meagre incomes from salaries can hardly take them through a month. The land within the municipality is categorised by agricultural experts as having a medium level agricultural potential. The main perennial cash crops grown are coconut, cashew nut, and citrus fruits. Food crops include cassava, maize, sweet potatoes, beans and a variety of vegetables. Crop farming is mainly carried out in the 23 villages within the municipality boundary, while gardening and to some extent poultry keeping and animal rearing is carried out in the built up or planning area.

Local production within the municipality is estimated to contribute only 20 % of the food requirement. However, agricultural experts concede that this contribution could be raised if the available land and agro-potentials were properly used.

Table 2.2 Annual Estimates of Crop Production Within the Municipality

Crop	Hectares	Tons	Value (TZS.'000,000)
Maize	7815	7815	78.2
Cassava	7130	21,390	1,070.5
Cashew nut	767	500	100.0
Copra	5300	2062 (copra)	120.0
Raw coconut		12,000,0000 (nuts)	

Source: Project Support Identification Report, Danida, January 2000

Sisal continues to be grown in Marungu estates by large scale farmers. Production in Pongwe and Amboni estates has stopped and plans are under way to use the land for other crops under small holder farming. These estates, together with others outside the municipality, for a long time provided full-time and part- time employment and income to some of the urban residents.

Livestock keeping is another important economic activity practised by both large scale and small holder urban farmers. The livestock reared include cattle, sheep, goats, pigs, and chicken. There are 3,288 improved diary cattle and 13,000 indigenous cattle. So far the municipality is self-sufficient in milk and surplus production is exported to Dar es Salaam and Mombasa.

2.1.7 Social Services

Tanga has social services of all grades ranging from those, which are supposed to cater for a community less than a neighbourhood to municipal level. Ownership of the social services is also diversified whereby some are owned and operated by Tanga Municipal Council, as well as the Central Government while others are owned and operated by private individuals or institutions to include non-governmental organisations.

HEALTH

There are 3 hospitals, 8 health centres and 52 dispensaries with a capacity of 690 hospital beds (see table below). The total staffing is 527. The major illnesses reported are malaria, upper respiratory tract infections, intestinal parasites, pneumonia, skin diseases and anaemia. According to annual 1998 report of a primary health care survey, which involved 98 per cent of the households, 83 per cent of the households had acceptable toilet, 13 per cent a refuse pit, and 88 per cent had access to safe water.

Table 2.3 Number of health facilities and beds (1998)

Ownership	Public		NGO		Private		Total	
Facility	No.	Beds	No.	Beds	No.	Beds	No.	Beds
Hospital	1	500	0	0	2	50	3	550
H/Centre	3	49	4	71	1	20	8	140
Dispensary	20	-	10	-	12	-	41	-
Total	23	549	14	71	15	70	52	690

Source: Project Support Identification Report, Danida, January 2000

Tanzania reported its first AIDS cases in 1983, and since then a total of 8,850 cases was reported to the National Aids Control Programme from the twenty mainland regions in 1999 thus bringing the cumulative number of cases to 118,713. However, it is assumed that only 1 out of 5 cases are reported, which means about 44,250 cases occurred in 1999 according to available information and 600,000 cumulative cases had occurred from 1983 to1999 (NACP report).

Both men and women are equally affected but the peak number of AIDS cases in women is at the age of 25 to 30 years (probably due to biological reasons) while for men the peak is at 30 to 34 years (probably due to economic reasons). This implies that women acquire HIV infection at an earlier age than men do. The main mode of infection so far is through heterosexual contact, which account to 82.7% of all cases. Other modes of acquiring infection include mother to child and blood transfusion. The country figure for HIV seroprevalence among blood donors was 9.4%. HIV prevalence in male blood donors was 8.7% and in female blood donors was 12.6%. Extrapolating these figures to the population of Tanzania mainland means about 1,745,320 adults aged 15 and above was infected with HIV virus as of December 1999. The impact of HIV on other diseases is particularly noted for tuberculosis, whereby HIV has led to a significant resurgence of TB and emergence of multi drug resistant trends.

Tanga had only 37 as its first HIV/AIDS cases in 1987 but up to December 1999, Tanga Municipal Council had registered 3,190 infected people and 583 deaths. The figures are only based on reported cases and hospital deaths, which are usually few. Initial data indicated that HIV/AIDS cases for Tanga Region were mainly from urban areas. The situation could partly be due to the breakdown of traditional rules and protocols of marriage and sexual contacts

thus leaving individuals without the strict regulation of sex and marriage, which the ethnic culture once provided. This makes Tanga town a melting pot for diverse peoples' culture and beliefs. HIV/AIDS therefore, is a threat to Tanga Municipality, which harbors a port with international interactions and notable drug trafficking.

It is difficult to get reliable information on HIV/ AIDS because of non-reporting and stigma on the disease, which make people avoid to report or fake their names if they have to report. Usually people who originate from Tanga but live outside are brought back during their terminal stages of AIDS and these cases are not reported. Likewise those who get infected in Tanga but are from different origins are likely to leave Tanga before they die thus their death records will not be recorded in Tanga. This complicates information on the magnitude of problem even in Tanga Municipality alone the data on the epidemic. Talking to different people who deal with HIV/AIDS and looking at medical records in Tanga Municipality reveals that the infection rate is between 8.5% (basing on blood donors) and may go higher, up to 30%.

EDUCATION

Tanga Municipal Council is responsible for pre-primary and primary education. It owns and operates 64 primary schools and 10 pre-primary schools. 28 out of the 64 primary schools are located within the urbanised part of the municipality while 36 are located in the 23 villages within the municipality. In addition to the 64 council operated primary schools, there are 5 privately owned primary schools. In all these schools there are 32,568 pupils, out of which 16,251 are boys and 16,297 are girls. As shown in the table below, in addition to the primary schools, there are 10 secondary schools, which are located in the urbanised part of the municipality, 4 out of which are public and 6 are privately owned and operated.

The Tanga Municipal Council, like all others in the country, builds primary schools in partnership with the residents. In addition to a fee of TZS 2,000 paid by each pupil, urban residents are mobilised by local leadership to contribute resources, money, labour, building materials, for building schools. Normally, residents' contributions are directed to building the super structure while the council supplies window and door frames, shutters and desks. This arrangement has enabled the council to at least cater for the ever increasing basic need of primary education. Despite this initiative, however, there are problems of inadequate classrooms and subsequently overcrowding. In an attempt to address this inadequacy, most schools in the urban part of the municipality operate in two shifts. Given the shift system, all schools are currently well staffed with qualified teachers and equiped with enough desks. However, it is obvious that if all schools were to operate under one shift system, classroms and desks will be inadequate.

Table 2.4 Number of Pre-Primary, Primary and Secondary Schools In Tanga Municipality

Location Of School	Pre-Primary School	Primary School		Secondary School	
		Public	Private	Private	Public
Urban	4	28	5	4	6
Rural	6	36			
Total	10	64	5	4	6

Source: Project Support Identification Report, Danida, January 2000

Tanga Municipality provides also special education for disabled children: the blind, deaf and mentally retarded. This type of education is provided for in Pongwe, Kisosora, Masiwani and Usagara primary schools. Moreover, the municipality operates 64 adult education classrooms

to cater for 14,101 adults; 8,400 women and 5701 men. The current enrolment is 4,748; 1,795 men and 2,953 women.

Table 2.5 Pupils Selected To Join Public Secondary Schools 1995-1998

Area	1995 Pupils	% of Total	1996 Pupils	% of Total	1997 Pupils	% of Total	1998 Pupils	% of Total
Urban	49	6.0	62	7.7	40	4.0	58	7.5
Rural	445	18.4	485	20.0	445	16.7	392	15.2
Total	492	12.3	547	16.9	485	13.9	450	13.4

Source: Project Support Identification Report, Danida, January 2000

2.1.8 Water

Tanga Municipality residents get water from Sigi River about 20 kilometres northwest of Tanga Town where manmade Mabayani reservoir was built in 1979, following creation of a dam on the Sigi River in 1978. The reservoir was originally designed to retain 7.7 million cubic metres, and ensure a reliable draw off of 39,000 cubic metres per day together with a daily compensation release of 1,500 cubic metres per day. In 1982 its supply capacity was judged to be 60,000 cubic metres per day. Subject to the sedimentation rate of the reservoir, it is calculated that the draw off could be increased to 80,000 cubic metres per day. However, due to sedimentation over the last 20 years, the reservoir has a maximum live storage capacity of 6 million cubic metres.

Water is treated at the Mowe water treatment plant which chemically purifies the water with aluminium sulphate, chlorine, and lime (only during the wet season when the water is highly turbid). From the reservoir water is supplied to storage tanks at Kange and Nguvumali with capacities of 4,500 cubic metres and 2,425 cubic metres respectively. Leakage is currently estimated to be about 50 per cent. Taking this into account the estimated present consumption is about 36,000 cubic metres per day.

The present daily demand of water, taking into account 40 per cent losses through leakage, is estimated to be about 36,000 cubic metres. 62 per cent of this is domestic consumption and the remaining 38 per cent is industrial, commercial, and institutional. The Tanga Water and Sewarage Authority expects that the present demand will be catered for by the water project of Urban Sector Rehabilitation Project (USRP), this part of which is financed by KfW. This project is expected to increase supply to 42,000 cubic metres per day, an amount which should be sufficient until around 2005 provided loss through leakage is reduced to about 25 per cent.

2.1.9 Sanitation and Solid Waste Management

The most commonly used systems of sanitation are pit latrines (about 75 per cent) septic tanks and sewer (25 per cent). The first two are inappropriate in most developed parts of the municipality because of high water table. The latrines and soak away pollute underground water and the lack of an efficient pit emptying system leaves most of them flooded during rainy seasons. Emptying of septic tanks is carried out by the municipal council through leasing of trucks to private sector operators who are supposed to empty their loads at Ras Kazone. Some trucks empty their loads into sewer manholes before reaching the said emptying point (see Programme Identification Report, January 2000).

The sewer system covers mostly the central business district. This system was built 60 years ago and was rehabilitated in 1992. Peak discharge into the sea is 80 litres per second with

BOD of 1200 mg/l. Bombo hospital is not connected to the central sewer because of its location at a lower level than the main sewer. It therefore empties its untreated waste (contaminated) directly into the sea near the harbour. Likewise some industries such as Foma detergent factory discharge untreated effluent into storm water drains or streams which lead the effluent into the ocean at Sahare.

Following the improvements made on solid waste management system, under the USRP, most of solid waste generated is collected and disposed off at Duga. Through this project Tanga Municipal Council has been provided with 2 skipmasters and 30 skip buckets. These facilities have greatly augmented the municipal council's solid waste collection facilities of 5 side loaders, in working condition, while 5 others are not. Since Duga dump site is almost full, a new site has been identified at Mwang'ombe area. This site will be constructed under the on-going USRP.

2.1.10 Roads And Drainage

The Central Business District and the old planned neighbourhoods are well served by 93 km. long tarmac roads, most of the stretches were full of pot holes despite the clear efforts by the Council to maintain them. Street lights are available along the major roads, but only about 50 per cent of the total of 1,381 lights are currently working. 12.8 kilometre long of the tarmac roads and lateral drains have been rehabilitated under the USRP at a cost of TZS. 2.3 billion. The rehabilitated roads include Jamhuri ring road, Bolton road in Gofu industrial area, Uhuru road which provides access to the central bus station, Boma, Independence, Railway, Ngamiani roads, and a portion of Swahili street. In addition 2.5 kilometres of roads have been rehabilitated using Council's funds. The rest of the roads in the municipality remain in poor condition particularly so where new residential development is taking place to include areas such as Sahare, Duga, Mabawa, Makorora, and all unplanned neighbourhoods. The 23 villages within the municipality are served by 144 km of worn out gravel engineered roads and 708 kilometre long earth or ungraded roads.

The main deficiency attributing to the poor condition of the available roads is lack of lateral drains and inadequate capacity to carry out routine maintenance. Due to lack of drains, during rainy seasons some of the existing roads or way leaves for roads serve as storm water run-off channels or water retention pools. Apart from restraining movement of people and vehicles, this weakens the road sub-base and eventually spoiling it. The more serious problem, however, is the flooding of houses when water can not be drained out of a low lying residential area such as Mabawa, Duga and Magaoni. This problem has been partially solved following the completion of construction (under the USRP) of a major drain 2.2 kilometre long at a cots of TZS. 400 million. This being the main drain, resources are needed to facilitate construction of secondary drains, which will feed into the main drain.

In addition to the 14.3 kilometres of roads (12.8km. USRP and 2.5 km Tanga Municipality.) rehabilitated, Tanga Municipal Council plans to rehabilitate additional 30 kilometres of existing tarmac roads and build another 5 kilometres of main drain through Duga-Mwang'ombe, Magaoni to Indian ocean. Moreover, there are plans to build secondary drains in Nguvumali, Chumbageni, Duga, Mabawa, Msambweni, Makorora, Usagara, Mwakidila, and construction of ring road 3 from the airport through Majengo, Mabawa, Mnyanjani, Kwanjeka, Usagara to Raskazone. Another related project is installation of street lights in Mabawa, Nguvumali, Usagara, Kwanjeka, Makorora and Duga. Other proposed road projects include: improvement of the following rural roads: Mleni, Kiruku, Migombani, Mwarongo, Kirare, Mapojoni and two bridges on this particular road.

A solution to the problem of capacity for routine maintenance of roads and drainage system has been worked out under the on-going USRP whereby Council staff have been trained on

routine maintenance and provided with the necessary equipment. Resources for maintenance are expected from anticipated improved revenue collection capacity that is being built .

2.1.11 Residential Development And Urban Planning

Growth and land development in Tanga municipality has proceeded relatively planned following its first master plan that was prepared in 1974 and reviewed in 1984. The 1984 like the 1974 master plan assumed high growth and subsequently reserved large areas for all land uses. The fact that Tanga has experienced slow growth over the last two decades implies that most areas designated for development remain undeveloped. In part because of the same reason development that has taken place has occurred more or less as planned.

The few unplanned settlements which existed during the 1970s, Gofu Juu and Mwakizaro were upgraded during the second phase of the Sites and Services and Squatter Upgrading Programme. These settlements were essentially peri-urban villages which were incorporated into the municipality following the administrative boundaries expansion in the 1970s. However, informal land subdivision and building of additional houses has been taking place in these settlements because the form of upgrading which took place at that time did not entail legal definition of plot boundaries and registration of land-rights. As a consequence, densification has been taking place, attracted particularly by the upgraded services.

Apart from the upgraded settlements, other unplanned settlements include: Mwanzange, Usagara, Magaoni, Kwanjeka, Kwakaheza, Kisosora, and Mwakidila. These areas have developed primarily because of three main factors, namely:

Lack of funds to compensate land-rights holders for their coconut trees The problem of compensation is complicated further by the fact that the official compensation rates are unrealistically low and therefore unacceptable by the property owners. For instance, the official rate for one coconut tree is TZS. 6, 576 while property owners would like to be paid at least TZS. 30,000. This is not unrealistic demand considering that the farmer depends on the coconut for his/her survivial and therefore needs a full and fair compensation to enable him or her to create an alternative means of survival. One coconut palm tree can earn the owner around TZS. 12,000 per year and it requires at least seven years of care to start harvesting. At the moment there are 1,300 unallocated plots at Magagoni(1998 survey), another 1,000 plots at Mwambani (1993 survey)and 1,200 plots at Masiwani area (1996 survey). This total of 3,500 unallocated surveyed plots spells out clearly the magnitude of the problem of compensation in the municipality. As a consequence of this problem of compensation the Municipal Council has been unable to allocate plots to potential developers.

- *Lack of public sector resources to service surveyed plots* As a consequence of this, some developers fail to develop the allocated plot and buy informally subdivided plots adjacent to existing planned areas where services such as water, electricity and telephone can be easily extended. Moreover, access to community facilities such as schools becomes an added advantage. Control of this form of development is not easy because developers claim that they are developing on their land or land allocated by the land-rights holder.

- *Lack of mechanism to mobilise and coordinate developers initiatives in services provision* Despite the lack of services, there are initiatives by developers to provide for themselves. These initiatives, which proceed uncoordinated are rarely seen as a potential to be enhanced if the issue of land servicing is to be addressed in the context of lack of public sector resources. Lack of recognition and necessary support to these initiatives leaves developers to muddle through alone, and normally unnecessarily in a very expensive way. The needed coordination is one of the primary functions of planners. Their failure to deliver this service, suggests deficiency in the current urban planning and management

processes. This needs to be addressed in the course of promoting suatainable urban development through collaborative and participatory planning and management.

The new planned areas include: Sahare, Mabawa, Duga, Makorora, Kwanjeka, Usagara, Majani Mapana, Nguvumali and Kange.The main problem facing developers and residents in these new areas, however, is lack of basic services such as roads and drainage, and water supply. As indicated above their efforts to provide services for themselves proceeds in a disjointed manner and inefficiently.

2.1.12 Legislative Framework

The principal legislation for urban local government administration in Tanzania is the Local Government (Urban Authorities) Act No 8 of 1982. This Act was reviewed and amended by the Parliament in April 1999 to provide for the changes necessitated by the present multi-party political system and the local government reforms. Under the Local Government Laws (Miscellaneous Amendments) Act 1999 the central government is expected to ensure that local government authorities are "effective institutions that are more autonomous in managing their own affairs and that they operate in a more transparent and democratic manner... [and] accountable to the people..." This is not an impossible mission, but it requires, on the one hand, a radical change of attitude among the politicians and bureaucrats in the central and local government system, and on the other, an organised, well informed and vigilant civil society that can demand the governors to be accountable to them.

Tanga Municipal Council operates with several bye-laws (see Annex 4), which are based on the principal legislation. However, like other local government authorities, the issue in the administration and management of the urban development in Tanga is not the shortage of laws, but the disregard or lack of enforcement of these laws depending on who will be affected. The Municipal Inspectorate acknowledges difficulties to enforce certain laws and regulations affecting the low income groups or the influential people and attribute this to the lack of support from the police force, as well as lack of awareness of the laws.

2.1.13 Environmental Issues

Key environmental issues in Tanga Municipality (these are described in more detail in the Programme Support Identification Report) are as follows:

- *Growth of unplanned and unserviced residential areas*
  Some unplanned settlements have developed on marginal lands which are liable to flooding and very difficult or very expensive to improve. In general these areas lack basic services such as water, sewerage, drainage, etc..

- *Poor system of liquid waste management*
  Most parts of the municipality are developed on areas with a high water table. This makes pit latrines, the most commonly used system of sanitary waste disposal, inappropriate. The latrines pollute underground water and the lack of an efficient pit-emptying system leaves most of them flooded during rainy seasons. Most industries discharge their untreated effluent in storm water drains or streams which lead the effluent into the ocean. Bombo hospital discharges its untreated wastewater directly to the ocean. Wastes from the slaughterhouse were reported to be similarly discharged.

- *Poor system of solid waste management*
  At the end of 1999, only 50% of solid waste was being collected, and the waste disposal site is poorly sited and nearly full. From the beginning of this year, the USRP implementation has improved matters, and a new disposal site is planned. There is almost no recycling of wastes.

- *Poor storm water drainage and flooding*
  Lack of storm water drains particularly in low lying areas renders some residential areas uninhabitable because of floods. Moreover, roads are destroyed and movement of people and vehicles is restrained.

- *Industrial pollution by existing and defunct industries*
  Tanga Municipality have had several potentially pollutant industries such as those producing detergents, fertiliser, cement, etc. Although some of these industries are currently out of operation, little data exists (and little scientific study has been carried out) regarding extent of pollution on the environment caused by the operation of these industries.

  Known pollution includes that of the Sigi River by heavy metals upstream of the Mabayani Reservoir, that in the harbour due to dumping from the fertiliser factory, and a number of reported incidences of untreated industrial effluent discharge into stormwater drainage channels from the industrial area.

- *Extraction of building materials*
  Inappropriate extraction of building materials at Duga, Magaoni, Mabawa, etc. has created big and dangerous holes which collect rain water and provides breeding areas for mosquitoes. Moreover, this practice destroys potential building land.

  Another environmental problem is connected to the production of limestone in Mzizima area where men and women involved complain of chest infection from the limestone dust. Crushing of limestone also pollutes the adjacent residential area.

- *Soil erosion*
  Lost of forest cover has led to soil erosion and landslides from the East Usambara Forest to the Musi River

- *Beach erosion*
  Beach erosion at Mwambani, Raskazone and Tongoni and north of the harbour particularly behind Tanga Library, old Boma and the Municipal Council building. As a result of beach erosion truck access road to the harbour has been eroded. Moreover tourist attractions are being destroyed by beach erosion.

- *Dynamite fishing and mangrove cutting*
  Dynamite fishing has destroyed coral reefs so that breeding grounds for fish are threatened, the result of which is the present poor fishing environment. Cutting of mangrove, notably for salt boiling and lime burning is also contributing to this problem as well as to beach erosion. The Coastal Zone Project is involved in the solutions of these problems.

- *Existence and growth of unplanned settlement along the beach*
  Existence and growth of unplanned settlement along the beach at Mnyanjani, Chongoleni represent a problem of its kind. Being on a mangrove swamp, this settlement is in a very unhygienic situation because it lacks (and it is impossible to establish) a sanitary system of excreta disposal.

2.2 Stakeholder Analysis

The Habitat-UNEP guidelines define stakeholders as *"those whose interests are affected, those who possess relevant information and expertise, and those who control relevant implementation instruments*." Such a wide definition means that the Sustainable Tanga Programme and the Danida support project have an enormous number of stakeholders, even if one limits these to organisations representing various stakeholder groups. The list at the end of Annex 5 runs to several pages just providing a list and perfunctory description of some of these organisations. Even so, the list is by no means complete; for instance, no attempt has been made to catalogue the scores of women's groups in Tanga.

Many of the organisations in Annex 5 are the same or analogous to ones identified as stakeholders in the Environmental Support Programme and the Danida support projects to Sustainable Cities Programmes in other municipalities.

Long lists of stakeholders, though, can serve to obfuscate the critical role and contributions of a few key stakeholders, who end up buried among the multitude of less important players. The sub-sections below focus on these key stakeholders without, of course, presuming to have identified every one.

2.2.1 Local Government Overall

The Tanzanian government is in the process of bringing back local government (in the sense of democratically elected bodies) and local administration that are accountable to their constituents. In the early 1970s, the Tanzanian government replaced elected local councils and the administrative structures under them with district and regional administrations answerable to the central government. The government took a small first step back toward popular local government by reintroducing elected local councils in 1982. However, these councils had only limited powers, and the central government still controlled local administration. From the mid-1990s, though, the central government committed itself to devolving significant powers to local authorities. Various activities to implement the new balance of power have already begun.

Elected government will become more powerful through several mechanisms. First, with financial decentralisation, the elected councils will have more latitude to decide on how and where to allocate resources. The central government will allocate funds for various sectors as block grants, leaving it to councils to decide how to spend the money. In other words, council control over planning and budgeting will become more meaningful. Second, administrative departments will now be under the control of the council. Departmental plans and budgets have always been submitted to councils (since their reintroduction), but in the past, the programs of the sectoral ministries have largely determined the activities included. Now, sectoral ministries are committed to facilitating and monitoring activities decided at the local level, and not to implementing directly. Civil servants will increasingly become employees of districts or municipal councils instead of the central ministries.

All of this bodes well for the Danida support project, concerned as it is with increasing stakeholder representation. A democratically elected council is the pre-eminent mechanism for representing popular interests, including those of stakeholders, and now those councils have increased power and authority over resource allocation. The Danida project in principle should be able to work with and through the councils to achieve the project's aims.

In practice, working through the councils will face difficulties. Local councillors in Tanzania have developed a bad reputation due to corruption, conflicts within the councils, and an

inability to meet public expectations in regard to services and good governance. Part of this problem stems simply from councillors' lack of knowledge about how to perform their roles. Some activities in connection with local government reform include revising and circulating new standing orders for the conduct of council business, preparing guidelines on councillors' roles and responsibilities, and conducting training in these areas. But one Tanga resource person argued that on-the-job training is what's really required, e.g., working with the members of a municipal council committee to solve several "case study" problems or issues. (The reformed councils already have three committees: Finance and Administration; Economic Services: and Urban Planning and Environment.) Councillors may even need training in how to represent their constituents, e.g., how to gather and assess information on their problems, what actions to take as a consequence.

This situation has two implications for the Danida support project. First, it will have to consider helping to build capacity along these lines. Second, the STP needs to ensure that people do not view the Working Groups and environmental planning and management process as an alternative to the municipal councils. That attitude could easily undermine the integration of the Working Groups into the structures of local government and administration. The aim clearly is to have the working groups providing the Tanga Municipal Council will rational and well-thought out decisions with regard to improvements to their environment and living conditions.

2.2.2 Tanga Municipal Council Departments

The municipal administration is composed of nine departments, two sections and a coordinator for the STP who is considered to be on par with a department head. The Departments are of course stakeholders in the Sustainable Tanga Programme, which is a project of the Tanga Municipal Council. The Sustainable Tanga Programme (Danida Support Project) seeks to support all the departments, in so much as they are involved in environmental planning and management. The Sustainable Tanga Programme works through the Municipal Management Team (MMT), which is headed by the Municipal Director and made up from the heads of all departments including the Sustainable Tanga Programme Coordinator. The list below seeks to lay out the environmental planning and management issues which the various departments are involved in:

- *Department of Urban Planning and Natural Resources Management*: This Department clearly has a primary role in environmental planning and management. In addition to the urban planning aspect the natural resource management aspect include includes fisheries and forests, and therefore it is also involved in protecting mangroves and reefs.

- *Education Department:* Schools are supposed to have tree nurseries and carry out tree planting. The environment is part of the school curriculum from Standard 4. The Tanga Coastal Zone Project has prepared a curriculum supplement and teaching materials on coastal ecology.

- *Trade and Economic Affairs:* The department is responsible for issuing trade licenses to businesses and enforcing regulations. Therefore controlling environmental degradation by enterprises comes under this department's purview. For instance, it chased vendors away from the market.

- *Health and Social Welfare:* The department has preventative and curative sections. Environmental sanitation, including malaria control, is under the latter. Malaria is an unusually serious problem in Tanga. JICA had formerly supported a large Malaria Control Project, which only switched to a community-based approach in its last year.

Reviving some sort of malaria control will very likely be presented as a project for EDF funding. The Working Groups on Environmental Awareness, Liquid Waste Management, and Solid Waste Management have proposed strategies and activities that relate closely to health department activities.

- *Cooperative Agriculture and Livestock Development:* The department has both urban and rural extension workers. Environmental activities and problems are found throughout e.g., land use planning, soil and water conservation, erosion control behind mangrove forests.

- *Works:* Departmental responsibility for roads and storm drains, solid waste management, and sanitation management (cesspit emptying) makes it a stakeholder in several priority environmental issues identified by the municipality. Also, the women's group that upgraded a municipal park had to get permission from Works.

- *Community Development:* The department has extension workers at the ward level, who can be used to complete and review community EDF applications. The department already provides small loans to women, mostly for business but also for tree-planting.

- *Finance:* The long-term sustainability of funding for environmental projects will depend on increased revenue and improved financial management. More immediately, Danida would like to transfer responsibility for project accounting to the municipality as soon as possible.

One of the challenges facing the Danida support project will be to make more participatory the planning and budgeting of environment-related activities in these departments. The Local Government Reform Programme is also due to design and implement a bottom-up planning and budgeting system for local councils, and the Tanga Municipal Council with the support of the project will need to ensure these measures and other donor measures are introduced in a complementary way with respect to the Sustainable Tanga Programme and the Tanga Municipal Council overall.

2.2.3 Sub-Municipal Government and Administration

Government and administration exists at the ward and street (*mtaa*) levels in the form of Ward Development Committees, Ward Executive Officers, and *mtaa* committees. Some of these have mobilised their residents to infrastructure projects such as roads and drains, and piped water extensions. The Sustainable Tanga Programme, as others in the SCP, uses Ward Committees to implement community-level projects and as a channel of communication between Working Groups and residents

One activity of the Local Government Reform Programme consists of restructuring at these levels. The Danida support project will need to follow this activity closely.

2.2.4 Village and *Kitongoji* Governments

Tanga Municipality has twenty-three villages. At one point, the municipality applied to have these villages formed into a separate district, but that application has been put on indefinite hold. For the foreseeable future, therefore, the Municipal Council is responsible for delivering services to these villages, including environmental protection and enhancement.

The needs and problems of these villages had been largely overlooked in the environmental planning and management process until the Council contracted the University College of Lands and Architectural Studies (UCLAS) to prepare a "Village Physical Development Plan for the 23 Villages in the Municipality". However this villages plan has yet to be translated into implementable detail plans according to the EPM process.

2.2.5 Local Government Reform Programme (LGRP)

The LGRP is the operational program of the Ministry of Regional Administration and Local Government for spearheading local government reform. Given the magnitude of the reforms, local authorities will have to do the bulk of the work themselves. It will support these efforts by providing technical and planning support, communication and feedback, support in specific areas such as capacity-building, and program funds. Towards this end, it has planned activities in the areas of

- governance,
- administrative restructuring
- financial mobilisation, management, and restructuring,
- human resource development and management, and
- legal reforms.

The legislation authorising decentralisation was passed in February 1999. From January 2000 to December 2001, LGRP will implement activities in approximately one-third (i.e., 37) of the local authorities, including Tanga. Implementation begins in the second and third batches of local authorities in January 2001 and 2002 respectively. Consolidation activities will continue until December 2004.

The LGRP is a unit within the PORALG, although staffed by eight consultants (i.e., Program Manager, Monitoring Coordinator, and a manager for each of six components). Zonal offices have been established in Arusha, Dar es Salaam, Mbeya, Mwanza, and Dodoma, each staffed with a financial management, a restructuring and personnel management, and a local government specialist. These Zonal Reform Teams will work with Council Reform Teams. The latter are composed of the Council Director, three councillors, the Department Heads of Finance, Personnel, Planning, Education, and Health, plus other Heads when the teams are dealing with issues relevant to their sectors.

2.3 National Management and Inputs

2.3.1 National Level Support

The former Ministry of Regional Administration and Local Government is reponsible overall for the Sustainable Cities Programme. The Regional Administration and Local Government has resently been transferred to the President's Office (PORALG). The Office of Regional Administration and Local Government is headed by a Minister. The Presently responsibility for coordination of the SCP rests with UASU – the exchange of information, support to EMIS systems, communication and publicity programmes, networking, coordinating training and other technical assistance to municipalities, and moniotoring activities.

The Sustainable Cities Programme is overseen by a National Programme Advisory Committee (NPAC), which meets quarterly. Three Municipalities are represented in the NPAC, which also includes representatives from PORALG, UCLAS, leading NGOs and the Human Settlements Department. Figure 2.1 overleaf shows the overall structure of

PORALG, and the link to SCP/UASU.

Further to this, Figure 2.2 overleaf gives an overall picture of the municipalities under PORALG, and how the SCP/UASU, other PORALG local government support programmes (USRP, LGRP) and other donors all provide support to the various municipalities, and the various municipal sustainable city programmes.

At present UASU's institutional future is uncertain, as UNDP funding will cease in June 2001, which is just before the proposed Sustainable Tanga Programme (Danida Support Project) is due to begin. At present PORALG have not established posts or secured funding to continue UASU as a unit, but it is anticipated that in any event, the overall responsibility for SCP coordination will rest with PORALG and be exercised through UASU or a sucessor unit in the PORALG. There will be a representative on the Sustainable Tanga Programme (Danida Support Project) Programme Steering Committee from SCP.

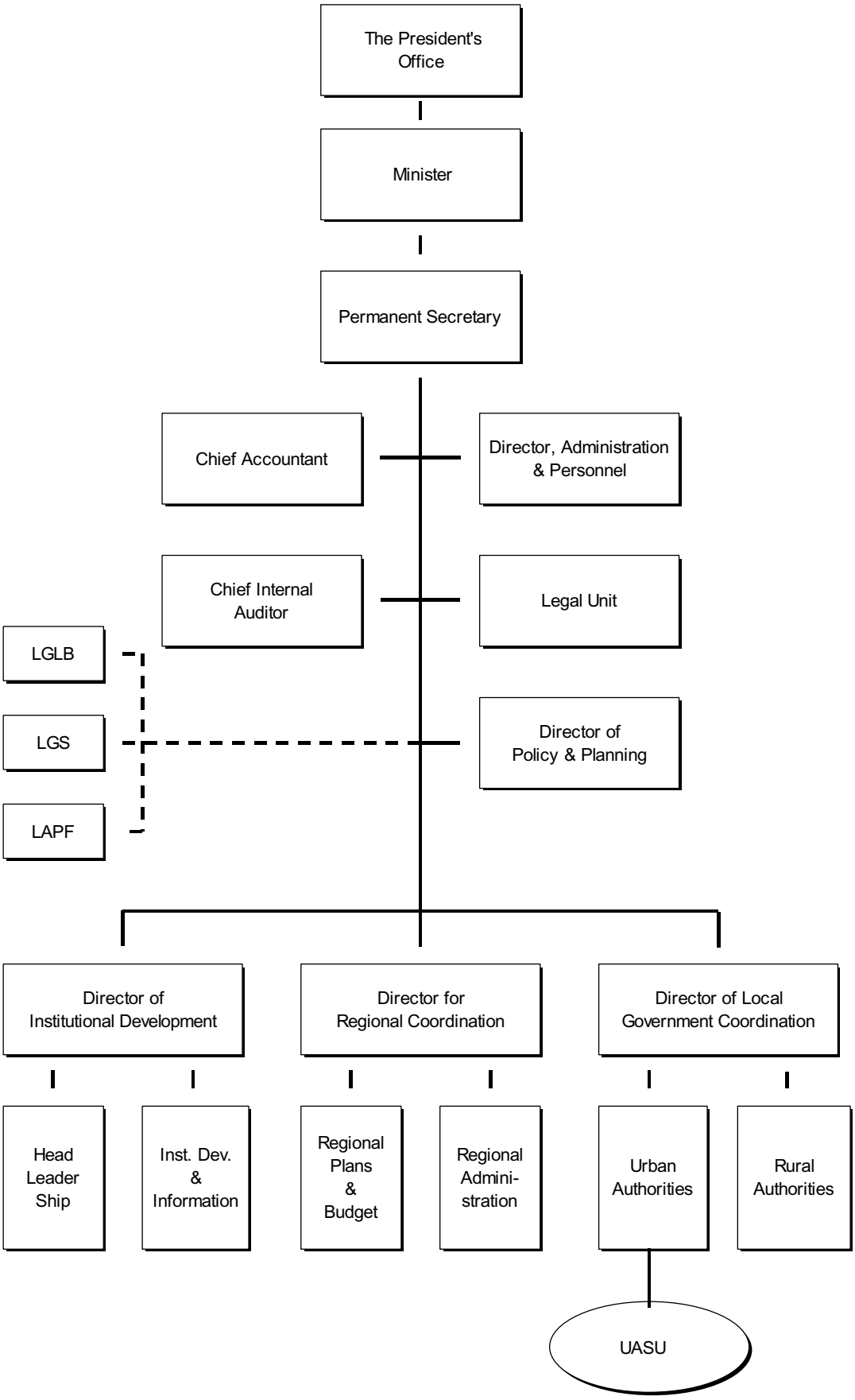


Figure 2.1 Organisation of Regional Administration and Local Government

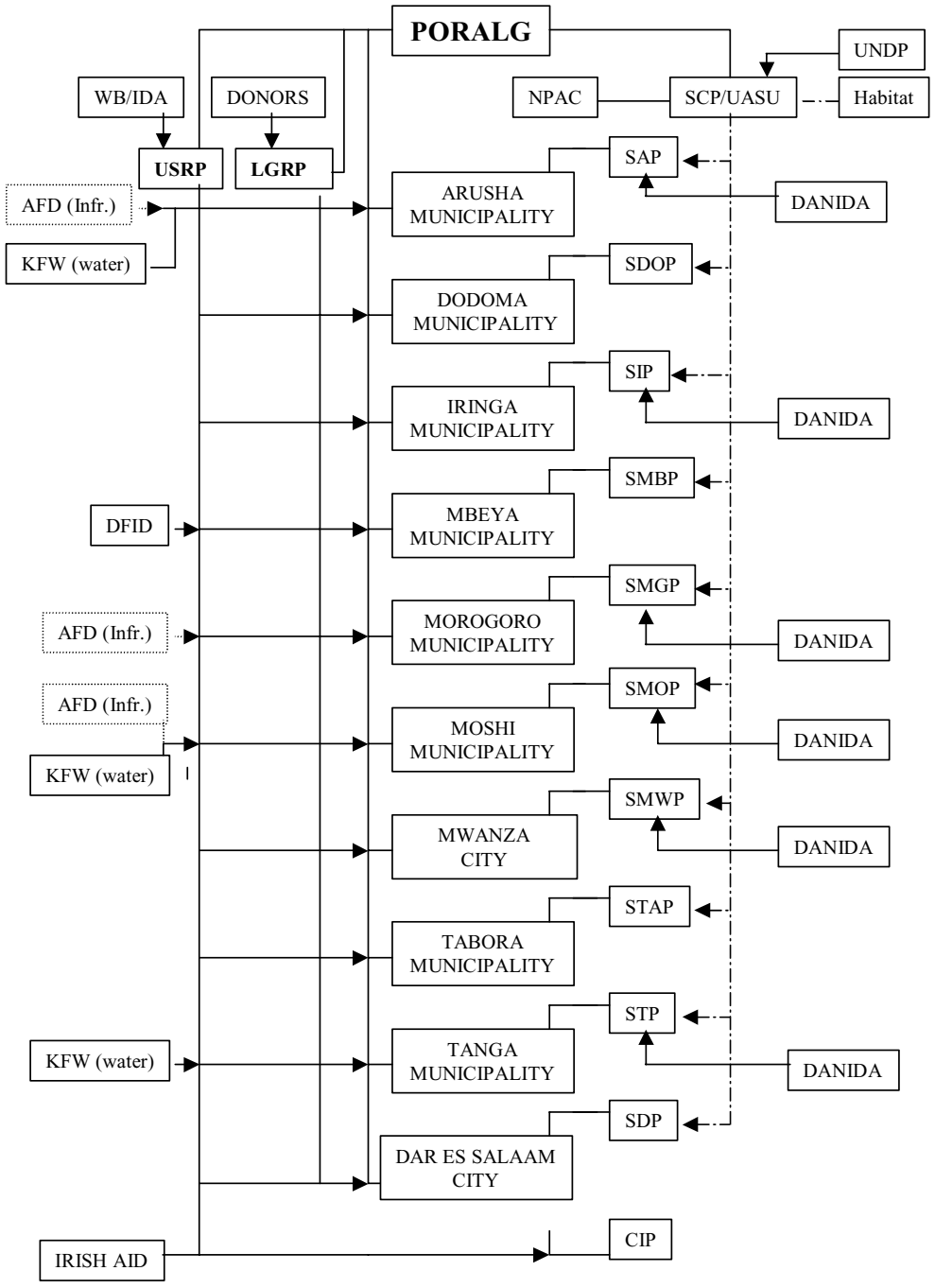


Figure 2.2: PORALG, Cities and Municipalities, & Support Programmes.

2.3.2 Municipal Level Support

The Sustainable Tanga Programme was established by Tanga Municipal Council in 1997. It is responsible for developing and implementing the Environmental Planning and Management Process in Tanga. The activities undertaken in establishing and following a participatory environmental planning and management process have so far included an Environmental Profile which was finalised in November 1998 and recently updated, and a Municipal Consultation was held in May 1999 which led to the formation of 10 working groups on priority issues. The Municipality has through the Sustainable Tanga Programme implemented a project from the action plan of one working group with funding from the Municipal Councils´ own sources. Also the Municipal Council have made several other financial contributions to the Programme and its activities. The Sustainable Tanga Programme receives some technical assistance and advice from the SCP/UASU.

The Municipal Management Team which is headed by the Municipal Director and made up from the heads of all departments including the Sustainable Tanga Programme Coordinator (please refer to Figure 5.1 in Chapter 5 which indicates the Municipal Structure) , will be responsible for providing technical support from Tanga Municipal Council as a body to the working groups and in assessing the technical feasibility of strategies and action plans, and of specific projects which form part of them.

They will be furthermore responsible for approving and including these plans on an annual basis as part of the Municipal Annual Plans. The Department Heads will also be responsible for their department's involvement in and support to the Sustainable Tanga Programme, as well as ensuring relevant support to their department from the Sustainable Tanga Programme (Danida Support Project). The Municipal Councillors on the Finance and Administration Committee are be responsible for day to day management of the Tanga Municipal Council overall, and will be responsible for approval of projects co-financed by the Tanga Municipal Council.

Tanga Municipality will contribute the following to the project:

- A full-time Sustainable Tanga Programme Co-ordinator from the Tanga Municipal Council.
- One full time secretary
- One full time accountant
- Local members, including elected Councillors for the Programme Steering Committee
- The relevant professional staff from Tanga Municipality who will take responsibility for and participate fully in activities facilitated by the project. This includes the heads of department and other departmental staff
- Provision of office facilities for the project staff
- Support from other departmental offices in the Tanga Municipal Council
- Provision of water and electricity and access to telephone line
- Contributions in cash TSH 30 million per annum to the Environmental Development Fund in Tanga during the project period.
- Support staff
- Payment of all running costs for equipment received from UNDP

3. VISIONS, OPPORTUNITIES AND BARRIERS

3.1 Visions

3.1.1 Visions at National Level

Government Approval of the national environment and related policies

The government of Tanzania has already approved its *National Environment Policy* whose main objective is to attain sustainable economic and social development through environmental management. Awareness raising, non government organisations and private sector involvement, community participation and cross sectoral co-ordination are among the areas that the policy relates to. The government has also approved *the National Human Settlements Policy* which aims at achieving sustainable living environment for all. The national urban development policy, the national programme on urban environmental planning and management and the Sustainable Cities Programme are also supportive of the efforts aimed at achieving the expected situation at the end of the project. The vision is to attain an improved and sustainable urban environment.

3.1.2 Visions at Local Level

An improved and sustainable urban environmental condition for the residents of Tanga Municipality is the situation expected to be achieved at the end of the project. This will be achieved by:

Institutionalised Environmental Planning and Management Process

It is expected that Tanga Municipal Council and other important stakeholders will be working in a partnership/participatory manner so as to achieve sustainable management of the environment. This will be based on the incorporation of strategic and action plans in the Municipal plans and the implementation of a number of projects from such plans. This process is also expected to be incorporated in the working routine of other institutions operating within the Municipality. The process will also function at the Ward and Mtaa levels for community based activities. In this way all the stakeholders will work together to identify different environmental problems and address them accordingly.

People at all levels will have an increased awareness, knowledge, skills and confidence to actively participate in the identification and prioritisation of their environmental problems. They will also contribute time, labour and cash in the implementation of the suggested solutions. This implies that the working relations at all levels and between the Municipal Council and other stakeholders will be highly improved.

Each democratically formulated Working Group will help other stakeholders to understand the environmental problem it is dealing with. This communication will go beyond understanding the magnitude of the problem to the strategies and actions involved towards solving it. In this way all stakeholders will be fully informed as far as environmental issues are concerned.

Increased Environmental Planning and Management Capacity

With successful implementation of the environmental planning and management, the capacity to plan and manage environmental issues will have been built in the Ward and Mtaa levels, the Municipal Council, private sector and NGOs and CBOs.
The capability of the Municipal Management Team in the co-ordination of strategies and

actions will be more enhanced through training and general experience gained during the process. Through their involvement in working groups, the Municipal departments will have increased their competence to work in a participatory and in a cross departmental manner. They will also develop their capacity to mobilise and manage resources. Some departments within Tanga Municipal Council already have the advantage of having worked with other projects like the Malaria Control.

The capacity of the ward and mtaa members will improve through their involvement in WGs and their participation in community based activities. Through education and awareness raising, their knowledge and skills will be increased and they will disseminate this to their respective communities, making the general public more aware of envrionmental problems.

Together with the local communities and the Municipal Council, NGOs, CBOs and the Private sector will be working in a more co-ordinated manner when dealing with environmental problems and developing effective strategies. Through their facilitation of the environmental planning and management process at community levels, their knowledge on environment will be increased. Both the private and informal sectors will work more closely with the Municipal Council and other stakeholders in addressing environmental issues.

The inclusion of and awareness raising on gender issues will lead to gender sensitive environmental planning and improved understanding of the importance of gender in all activities.

Improved Environment

Depending on the issues which the working groups are dealing with and the improvements made, at the end of the project, the environment in Tanga municipality is expected to substantially improve. Already the working group on street lights has implemented its action plan. Although it is not an environmental issue, it stands as a good example for others dealing with environmental issues and it has led to improved security and lighting along the street. Safety is an important aspect of sustainable cities and a precondition for people to realize the full potential of their lives.

3.2 Opportunities

The opportunities for the Sustainable Tanga Programme (Danida Support Project) include:

- increased opportunity to strengthen the democratic institutional system through the application of open and participatory decision making process on environmental issues.

- the Sustainable Tanga Programme will provide a focal point for the development of a shared understanding of the environmental issues. This will facilitate the development of a more collective approach to environmental planning and management.

- through UASU, SCP and UN supported urban environment forum, there is opportunity to network with cities and other Municipalities within Tanzania and all over the world. This will enable the exchange of information and experiences hence allowing Tanga Municipality to apply lessons learnt from others so as to enhance its implementation process. Already Tanga has visited Mwanza and lessons learnt there have been incorporated in the Tanga Municipality's program.

- there is a general consensus among institutions that environment is an important issue hence an opportunity to build upon it. This is likely to boost the ability of Sustainable

Tanga Programme (Danida Support Project) to achieve the demonstration projects.
- with the realisation of the Local Government Reform Program, there is an opportunity for improvement in the financial and administrative capacities.

3.3 Poverty Alleviation and Cross-Cutting Issues

3.3.1 Poverty Alleviation

Poverty alleviation is the implicated goal of most development projects and programmes. This has a direct relationship to the efforts of the people themselves because economic and social development is no longer brought by the government but people themselves. Environmental management goes hand in hand with poverty alleviation, for this reason all stakeholders will participate in poverty alleviation efforts. The environment will be seen as a resource, and actually a limited resource and hence the need to use it sustainably.

This Project will directly alleviate poverty in the following ways:
- By reducing environmentally related health problems improving the chance that people can avoid illness and remain economically productive
- By helping to achieve better productivity in urban agriculture
- By improving the resource base
- By securing work opportunities for the poor in urban management schemes such as waste recycling and recovery

Poverty is one of the major causes of environmental degradation. Poverty is also directly related to the level of technology used to alleviate it. With low levels of technology, one cannot produce enough to fulfil the needs. This call for application of appropriate technologies and improved relations of production which will advance all the people together.

The organisation and formation of women and youth groups is aimed at reducing poverty. Unlike individual efforts where the majority have low income and lack capital, cooperative groups help people to alleviate individual poverty together. Although there are limited data to measure the extent of poverty in Tanga Municipality, the reality is that the majority of the people are poor though not poorer than their rural counterparts.

The level of poverty differ between residents both as individuals and as groups. As for Tanga Municipality, some of the causes of poverty include lack of working skills and knowledge, lack of employment opportunities, negative attitude towards agriculture, lack of the urge to work hard, lack of the culture to save etc. People face a number of problems in their poverty alleviation efforts. These include hostile working environment i.e. limited knowledge, expertise and experience, low levels of technology which means production of low quality and inferior goods, lack of business promotion and reliable markets and lack of legal areas for business operation etc.

The Ministry of Community Development Women affairs and Children assist organised women groups by allocating funds for loans. This fund is managed by the Municipal Council. The Ministry of Labour and Youth Development also allocate funds for youth groups which is also managed by the Municipal Council. The Municipal Council itself allocates 10% of its annual revenue for women groups. These are poverty alleviation efforts, which will be supported.

Just like in many places, people in Tanga use the environment e. g sand quarrying, limestone production, firewood collection, illegal fishing etc. to achieve poverty alleviation objectives more than managing the environment per se. What is important and will be done is the

promotion of environmental activities, which will alleviate poverty and improve the general living conditions. This requires a participatory peoples approach.

3.3.2 Gender Issues

In the environmental planning and management process, gender issues have to be considered when developing an environmental profile. This ensures gender responsive planning. The inclusion of gender issues into the Sustainable Tanga Programme must receive extensive emphasis. It is observed that both men and women play important but different productive, economic and social roles. There are gender differences in the activities carried out, resource ownership and use patterns, equipment, labour, income etc. A Gender Profile Study in Tanga, October 2000 is available and currently UASU is preparing a similar study.

Some of the issues relevant for gender sensitive environmental planning observed include:

- Low education and awareness on environmental problems among women. The few women interviewed at Mzizima limestone small scale production area did not think that the activity cause any environmental problem. On the contrary, the men in the same business indicated that the activity cause environmental problems to the surrounding residential area and to the inhabitants.

- Women passively participate in meetings with many men. However, for those who can actively participate, they have good views and opinions about the subject discussed. It was indicated that this trend is changing. Initially women would rarely give their views in front of men and men would not take the views expressed seriously.

- Women are already organised in environment management and income generating groups. They are currently being supported by the Ministry of Community Development, Women affairs and Children, the fund is managed by the Municipal Council which also sets aside 10% of its annual revenue for women groups.

- The youths are also organised in groups comprising of men and women. They deal with different activities but mainly income generation and are supported by the Ministry of Labour and Youth development by afund managed by the Municipal Council.

- Women can perform the activities which were initially assumed to be managed only by men. At Kiomoni stone and aggregate quarry for example, both men and women are involved in the business.

Almost all urban related activities performed by men and women have a direct relationship to environment. In Tanga some of the activities leading to environmental degradation include aggregate quarrying in Kiomoni area, which tend to leave ugly scars on the environment, limestone production in Mzizima area, which is located close to a residential area, farming along rivers and ridges which cause soil erosion etc. However, most of the other activities performed by women both at family and community level, contribute to environment degradation. This puts women in a position where they seem to degrade the environment sometime more than men. Firewood collection for example, involves tree cutting, which lead to soil erosion, also water collection and improper utilisation at sources such as washing, irrigation etc. may cause water pollution. Most of these activities are women's responsibilities.

It is therefore important to involve women through awareness raising on the effect of these activities to environment and educate them on the best ways of performing the same activities

without degrading the environment. As the saying goes, ”if you educate a woman you have educated the entire society”, if women gets this kind of education they will educate the rest of the community.

Although the aim is to help women and push them to fully participate in environment issues, the process involves the participation of both gender in planning and management of environment related activities. This is emphasised because gender blind strategies are not likely to improve the environment. Positive measures incorporate all i.e. men, women, boys, girls, the youth, the old and children. Currently there is need to develop strategies which give preference to women until when women and men reach a level where they are perceived equally. This ought to start at family level where women are to be given equal or higher chances of education, at community level where women are to be given more chances to plan and make decisions etc.

The Sustainable Tanga Programme has to give special preference to women so as to ensure their participation in environment management. This requires encouragement efforts on the part of women themselves as the majority lack confidence and also awareness raising on the part of men as some do not accept women as equal partiners. The level of skills and knowledge possesed by men and women has to be looked at carefully and where necessary these have to be improved accordingly.

3.3.3 Democratisation and Good Governance

It is important to establish a context, which ensures a more equitable, democratic, efficient and environmentally sustainable form of urban development. A democratic and governable Tanga will result from strengthening and developing new forms of management where the state and civil society will meet and connect to plan together. This will result into the creation of new foundations for local development. Understanding the roles and responsibility of each will reduce peoples dependency on the Council. However, transparency and commitment of the Council and the civil society is a requirement for this kind of management as it will mean combating corruption and achieving a favourable distribution of wealth.

All along, the respect for peoples rights will be maintained because the goal is to achieve a Tanga Municipality with sustainable and life empowering environment. This means having access to natural and social environment based on appropriate management of nature and its resources and opening up spaces for the full exercise of people’s freedom and creativity i.e. putting people in the centre of decision making.

3.3.4 Environment

This support project specifically targets environmentally sustainable urban planning and management. The Danida support will help make sure that environment is considered in all municipal planning and development activities. Finally, as activities identified by the Working Groups are developed, there will be the opportunity to undertake environmental impact assessments for specific projects.

3.4 HIV / AIDS

AIDS/HIV issues will be addressed by the project partly because of the deep concern over the epidemic, and because AIDS is increasingly affecting and claiming the lives of stakeholders. The prevalence of HIV/AIDS brings constant tension to stakeholders who are the key labor force, taxpayers and service providers for the Municipality. Although there is a loose linkage to the environment, the people we expect to manage and sustain the programme need to be

free from social and economic tension in order for them to fully participate.

Unchecked HIV infection means more burden to the Municipality as it has to increase its limited budget for medical services hence reducing the attention of the same to other equally important sectors. Increased number of people suffering from AIDS means increased number of people to attend them. Both the affected and the care- taker will not in the meantime participate fully in any productive activity hence leading to increased poverty. On the other hand, AIDS has a negative impact on the future generation since it tends to claim the life of both parents leaving many innocent children as orphans some without people to take care of them or pay for their education. This process turns the majority of orphans into street children, pick pocketing, thieves etc. In the long run this means creating a society of poor and illiterate people.

Both the government and the Municipal Council are fully involved in national and regional programmes addressing the issue, and an HIV consulting office has been established in Tangamani within the Municipality. At the same time there are different efforts by various organizations within Tanga, which are already addressing the issue. So far the following activities have been carried out:

- Training on HIV/AIDS at Regional, District, Ward and Village/Mtaa levels for all leaders from the government, religious institutions, traditional leaders or other influential people in the localities etc.
- Training of trainers and training in counseling.
- Awareness raising about HIV/AIDS to health practitioners.
- Education on HIV and STDs to susceptible groups like hotel attendants, barmaids, disabled, drivers etc
- Strengthening of laboratory facilities in all hospitals to allow for blood screening before transfusion
- Distribution of HIV/AIDS related literature materials, posters, films etc.
- Introduction of special education programs in schools.

These efforts have not been fully achieved because of limited funds, lack of professionals especially for counseling and laboratory services, failure to reach a larger portion of the population for education and lack of training materials. STP's entry point therefore will be to contribute to existing efforts and therefore help control and reduce the rate of infection among Municipal residents. It is important that the project efforts will include collaboration, support and assistance in the following:

1. Identify existing efforts and arrange for collaboration
2. Support awareness raising activities on AIDS/HIV among communities
3. Support efforts on Training of Trainers
4. Facilitate the collaboration between involved parties i.e. government, NGOs, CBOs etc.
5. Facilitate efforts aimed at promoting people's change of behavior
6. Assist in building the capacity of HIV/AIDS information centres
7. Support Municipal Council's program on AIDS/HIV. TMC has allocated a budget of TSH 5 million for AIDS/HIV activities for the year 2001.

The project will therefore build on existing efforts and support and work together with the relevant organizations involved. The MC budget of Tshs 5 million for HIV/AIDS for the year 2001 seems to be small for the stipulated activities. The project will therefore supplement the amount of funds set aside by the Municipal Council.

3.5 Malaria and Lymphatic Filariasis

Implementation of improvements of the water and sanitation facilities through the STP is expected to have a positive impact on the transmission of infectious diseases, such as water related and mosquito borne parasitic infections. The Environmental Profile shows, that malaria is a major problem and according to the Danish Bilharziasis Laboratory (DBL), lymphatic filariasis as well as intestinal worm infections also cause high levels of morbidity in both urban and semi-urban areas of Tanga.

In the absence of appropriate medical drug treatment, reduced levels of transmission are expected to occur as the result of a reduced number of mosquito breeding sites and improved household hygiene and water management. Therefore, the possible health impacts of environmental interventions should be incorporated in the STP through the projects financed under the EDF. A proposal on the environmental interventions aimed at reducing problems of malaria and lymphatic filariasis should be prepared during the Inception Phase of the Project. The input for this is estimated to approx. 1 mm financed out of the international short term consultants budget, and since the Danish Bilharziasis Laboratory has relevant experience from Tanga in the mentioned diseases, the input should be undertaken by DBL.

A note, prepared by biologist Dan Meyrowitch, DBL on mosquito transmitted infections, proposed mosquito control measures in the STP and health impact appraisal is included as Annex 6 to this Document. This should act as a point of departure for further activities in this field.

3.6 Financial and Organisational Sustainability

The financial sustainability of the Municipal Council is not expected to be achieved through this project. The Project is, however, expected to contribute to the improvement of efficiency and effectiveness of local efforts and resources for environmental planning and management. This will be attained through working in an integrated and collective way, which involve all the stakeholders. Through effective budgeting, investment planning and efficient use of Municipal resources, the strategic use of financial resources for environmental investment will improve. The project through its educational and awareness and poverty alleviation strategies, is expected to increase the people's willingness and ability to pay for the improved services.

Organisationally, the project will be sustainable because of its integration into the existing structures and processes of Tanga Municipality. The main stakeholders are already happy with the environmental planning and management process.

3.7 Future Investments

The EDF will fund limited demonstration projects at community and municipal levels, in line with the available financial resources of the EDF. Strategies and action plans developed by the working groups and related studies can be expected to identify the need for investment in activities and projects which are beyond the scope of such EDF funding. These may include infrastructural investments, or specific environemental activities.

Such large projects should be developed and planned in relation to available or reasonably expected resources, so as to maintain a focus on what is manageable and implementable. It may be that the Sustainable Tanga Programme with the assistance of the Danida Support Project, and other networking may be able to assist Tanga Municipal Council to secure additional resources and therefore plan and implement additional and larger projects.

3.8 Problems, Obstacles and Barriers

Potential impediments to the visions and opportunities include the following:

Institutional Constraints

There is evidence of limited collaboration and conflicting interests among institutions operating in Tanga. For example, agencies have a tendency of operating in isolation as in the case of a limestone production business immediately adjacent to a residential area operating legally under a licence obtained from the Ministry responsible for minerals but against exisiting land use restrictions. The installation of utilities are based less on a global services growth plan than they are being put into plac only where there are paying customers.

Limited stakeholders and public participation

Historically, Municipal councils in Tanzania have been operating without the participation of the stakeholders in the decisions regarding Municipal strategies and plans. This trend is changing and the Municipal authority in Tanga is now providing opportunity (though little) for the stakeholders and the general public to participate in planning through public meetings and consultations. The limitation is that the changing process is going to be gradual. At the same time women who are directly related to environment are not fully involved in the planning and management of environment improvement activities.

Of equal concern is the quality of participation and improving the capability of people at the lowest level of the rural wards to successfully access the Environmental Development Facility (EDF) and the benefits it implies. There is an important need to improve the ability of stakeholders to generate appropriate and high quality technical proposals that are fundable and to ensure equality in project consideration and a balanced distribution or application of the EDF inputs. This includes effectively responding to information constraints.

Information Constraints

Lack of information limits the options for resolving problems, as a result there are limitations in coming up with effective strategic plans and project proposals. At the community level, lack of information leads to low levels of awareness about environmental management among some groups especially women. There is a need to ensure that needed information and supports are provided to the Working Groups.

Financial Resource Constraints

As indicated earlier, the economy of Tanga has been deteriorating in the past. Although it has started picking up, it is not likely that the investors will concentrate their investments on environmental issues at these early stages. However, the introduction of cleaner production technology has the advantage of focusing simultaneously on improved environmental conditions and ensuring maximum use of resources by offering the possibility of saving on the costs of production. There is a window of opportunity during the start-up of new economic activity in Tanga to promote the utilization of CPT.

Legal Constraints

Existing environmental legislation in Tanzania generally is difficult to enforce; it is seen as fragmented, overlapping, contradictory, and sometimes overlapping. In Tanga environmental by-laws are incomplete and not well or systematically enforced. Effective and effectively used legislation is needed in many respects, but particularly when considering the “stick and carrot” approach to reducing environmental pollution.

4. LOGICAL FRAMEWORK ANALYSIS

4.1 Development Objective

The development objective of the project is:

Contribute towards improved and sustainable urban environmental conditions for the people in Tanga Municipality.

4.2 Immediate Objective

The immediate objective of the project is:

By mid- 2005, Tanga Municipal Council and other important stakeholders work in partnerships towards the sustainable management of the environment in Tanga Municipality

4.3 Outputs

The following are the outputs related to the attainment of the immediate objective:

Output 1: EDF established and integrated within Municipal management structure

Output 2: Demonstration projects selected by the Working Groups of the STP implemented and promoted early in the project period

Output 3: Participatory EPM and general environmental awareness promoted

Output 4: Communication system developed and implemented including regular updating of data on the state of the environment based on the EMIS

Output 5: Capacity of Working Groups and stakeholders in EPM increased

Output 6: Capacity within TMC in general, relating to EPM increased

Output 7: Strategies and actions plans improved based on consultations with stakeholders

Output 8: Community level EDF projects approved and implemented

Output 9: Municipal level EDF projects approved and implemented

Output 10: Environmental Audits of selected industries conducted and demonstration projects on Cleaner Production Technologies in industries and SMEs implemented

4.4 Activities

The following are the activities found necessary to produce the outputs given above:

Output 1: EDF established and integrated within municipal management structure

Activity 1.1: Develop overall criteria and application procedures for EDF, including co-funding requirements for community level, municipality level and CPT projects, and develop project agreement documents.

Activity 1.2: Obtain approval from PSC, and ensure that procedures for the EDF are integrated with the Municipalities own procedures e.g the Women Development Fund.

Output 2: Selected "demonstration projects" developed by Working Groups implemented and promoted

Activity 2.1: Select suitable demonstration projects for EDF funding from those developed by working groups in action plans over the previous 2 years

Activity 2.2: Develop into project proposals (using short term consultancy input if necessary), and implement. Ensure project results are promoted (see output 3).

Output 3: Participatory EPM, and general environmental awareness promoted

Activity 3.1: Carry out initial needs assessment for awareness on environmental issues and on the Sustainable Tanga Programme.

Activity 3.2: In accordance with 3.1, develop an environmental and project newsletter in kiswahili/english and distribute to stakeholders, schools, etc..

Activity 3.3: Promote the Sustainable Tanga Programme and the environment in other forums (e.g. radio, pamphlets on specific issues) on regular basis.

Output 4: Communication system developed and implemented including regular updating of data on the state of the environment based on the EMIS

Activity 4.1: Develop a comprehensive approach to Project information collection, organization, and dissemination

Activity 4.2 Procure equipment, assess institutional requirements, conduct training needs analysis

Activity 4.3: Conduct training

Activity 4.4: Based upon information available since the last Environmental Profile (EP) - e.g. Information from the EMIS, Tanga Municipal Council, Working Groups, specific baseline or other studies - update the EP for Tanga Municipality when needed

using participatory methodologies, Sustainable Tanga Programme and Tanga Municipal Council staff, and short term consultant inputs as necessary.

Activity 4.5: Undertake environmental impact assessments (e.g. by short term consultancies) for selected areas of Tanga and where possible audits of selected industries. Include such information in updates of the EP. Recommend measures to reduce negative environmental impact for possible project funding.

Activity 4.6: Hold annual municipal "mini"consultation to re-affirm priorities and the relevance of the Working Groups, and to discuss Sustainable Tanga Programme related activities

Activity 4.7: Working from baseline study(ies) define a minimum data set for environmental management and decision-making for use in the EMIS

Activity 4.8: Refine indicators for the project/Sustainable Tanga Programme and means of verification, and collection to enable monitoring and evaluation (training link to 5.2 & 6.2 above) of implementation of the project. Disseminate lessons learned. Carry out follow-ups to baseline study at middle and end of support project.

Activity 4.9: Prepare strategy for procurement of GIS services

Activity 4.10 During the Project period, prepare at least two state of the environment reports based on monitoring activity of the EMIS.

Output 5: Capacity of Working Groups and stakeholders in EPM increased

Activity 5.1: Secure that EPM process is in place

Activity 5.2: Develop clear and simple guidelines/TORs for Working Groups to guide them in their activities, and provide operational rules.

Activity 5.3: Devise and implement training at municipal level to strengthen environmental planning and management skills among working group members and other parties, including industrial and business interests, and existing community and interest groups at various levels. (including mtaa leaders, NGOs , CBOs, etc..). The training should be based on a training need assessement in the beginning of the Project.

Activity 5.4: Arrange for study tours and training outside the municipality to other SCP municipalities, national training institutions (e.g UCLAS), that offered by UASU or others, as appropriate to assist working group members.

Activity 5.5: Provide training in project proposal preparation.

Output 6: Capacity within TMC in general in EPM increased.

Activity 6.1: Secure that EPM process is in place

Activity 6.2: Undertake overall assessment and review of the capacities (both human resource and material) and procedures of the Tanga Municipal Council relevant to the Sustainable Tanga Programme

Activity 6.3: Produce a human resources and organisational strategy for environmental planning and management for development of Tanga Municipal Council, and implement a training programme for relevant municipal staff (link to Output 5 - municipal officers in WGs) based on a training need asssessment. Equipment procured under project to be located in Tanga Municipal Council office relevant to that function.

Output 7: Strategies and actions plans improved based on consultations with stakeholders

Activity 7.1: Sustainable Tanga Programme and Working Groups prepare strategies and prioritised Action Plans in accordance with available resources together with the related "project groups" who will manage implementation (including especially applications to the EDF). Such action plans should be developed on an annual basis to facilitate implementation, with the strategy outlining longer term plans.

Activity 7.2: In support of above carry out such studies (e.g. feasibility studies, detailed design, etc. by consultancy input or other) or investigations as are necessary to support the Tanga Municipal Council, the Sustainable Tanga Programme and the working groups to facilitate decision-making. This to be closely linked to outputs 5 & 6.

Activity 7.3: Action Plans and strategies then discussed in short workshops to include wider stakeholders. Once so endorsed passed to the MMT and the TMC for approval, approval by the PSC and incorporated into Tanga Municipal Council plans.

Activity 7.4: Training in the preparation of project proposals.

Output 8: Community level EDF projects approved and implemented

Activity 8.1: Assist in preparation of the urban environmental management and development strategic framework

Activity 8.2: Working from the action plans for that current year, Sustainable Tanga Programme and working groups select project proposals with community groups for EDF funding and implementation. Prior to PSC approval, present to MMT and TMC for approval.

Activity 8.3: In support of and throughout the process above, Sustainable Tanga Programme/project/Tanga Municipal Council to provide technical backstopping (e.g. consultancy services on design, costing or supervision, etc) as necessary to enable decision-making and monitoring related to implementation by the working groups.

Activity 8.4: Support a number of demonstration projects

Output 9: Municipal level EDF projects approved and implemented

Activity 9.1: Assist in preparation of the urban environmental management and development strategic framework

Activity 9.2: Working from the action plans for that current year, the Sustainable Tanga Programme and working groups select a small number of larger city-wide project proposals (perhaps made up from a number of similar small proposals) for EDF funding and implementation. Prior to PSC approval, present to MMT and TMC for approval.

Activity 9.3: In support of and throughout the process above, Sustainable Tanga Programme/project/Tanga Municipal Council to provide technical backstopping (e.g. consultancy services on design, costing or supervision, etc) as necessary to enable decision-making and monitoring by the working-groups, related to implementation.

Output 10: Environmental Audits of selected industries conducted and demonstration projects on Cleaner Production Technologies in industries and SMEs implemented

Activity 10.1: Provide information to industries, enterprises and the informal sector in conjunction with CPC Tanzania, facilitating/enabling CPCT workshops and training courses in Tanga Municipality. Encourage such "commercial" involvement in working groups, and inclusion of CPT projects in strategies and action plans.

Activity 10.2: Working from the action plans for that current year, the Sustainable Tanga Programme and working groups select CPT and "commercially-related" environmental project proposals for EDF funding and implementation. Present to PSC for approval.

Activity 10.3: In support of and throughout the process above, Sustainable Tanga Programme/project/Tanga Municipal Council to provide technical backstopping (e.g. consultancy services on design, costing or supervision, etc) as necessary to enable decision-making and monitoring by the working groups related to implementation.

Activity 10.4: Assist and advise industries in obtaining larger-scale support for CPT measures. Also assist Tanga Municipal Council in containment/mitigation measures for significant environmental impacts.

4.5 Inputs by Danida

The Danida Support Project to the Sustainable Tanga Programme will cover a period of 5 years, with the possibility of extension to other phases within the framework of Danida assistance to urban environmental management in Tanzania.

4.5.1 Personnel

Danida will provide the following personnel:

- Long-Term Technical Adviser (international) 24mm
- STP Administrator (national) 60mm
- Short term international staff (inc. 12 mm TA) 24mm
- Short term national staff 24mm

Draft job descriptions for the proposed Technical Adviser and STP Administrator are attached in Annex 2. That for the current STP Co-ordinator is assumed to remain as at present, and has been modified only to include the additional responsibilities, which would relate to the Danida Support Project.

At the time of writing it has been assumed that the Technical Adviser will be able to withdraw from the project after 24 months, and an allowance of 12 mm has been added to the short term international inputs to allow TA support over an extended period in the 3 years following this withdrawal; this arrangement may be revisited at the time of review depending on prevailing circumstances at that time.

In addition to this, both international and national short term consultancy inputs will be needed, and will be scheduled in accordance with specific assignments and as required for the activities under the project. These may include:

Support Project Operation
- Development of criteria for EDF funding in coordination and consultation with other SCP Danida Support Projects
- Technical supervision of EDF and other project implementation
- Promotional activities
- Facilitation of workshops and consultations

Instiutional Capacity Building
- Development of guidelines for Working Groups
- Technical assistance in the development of project proposals
- Needs assessment on environmental awareness
- Training Needs Assessments and analysis
- Development of training programmes
- Review of available training and support institutions for environmental planning and management in Tanzania
- Assessment of human and material resource capacities for environmental planning and management
- Training for preparation of strategies and action plans, project management and decision-making for Working Groups, other general support to working groups.

Technical Studies in support of Demonstration Projects
- Cleaner Production Technologies
- Occupational Health and Safety Audits
- Environmental impact assessments and environmental audits
- Updating of environmental profiles
- Environmental/geographic and management information systems
- Mapping experts
- Surveying experts
- Feasibility studies
- Preparation of detailed project designs, bills of quantity, costings, and other technical and financial support to "project groups"
- Community participation
- Gender issues
- Environmental and urban planning
- Financial systems
- Civil, electrical, structural, chemical, municipal, and other engineering
- Operation and maintenance
- Environmental experts (wide range, could include for example energy, pollution, forestry, marine, etc.)

The management of the Sustainable Tanga Programme will determine the need for and scope of individual inputs in accordance with the planned activities of the project, and in

consultation with relevant stakeholders where appropriate. Danida regulations in Tanzania mean that for international consultants expenses relating to travel, accommodation, and per diem are paid according to Danida regulations; and for national consultants expenses relating to per diems and transport according to Royal Danish Embassy regulations (these also apply to project stakeholders on project related travel outside Tanga).

4.5.2 Capacity Development

Although the TMC will cover the salary of staff involved, the costs of capacity development will be covered by Danida. Although many aspects of the Danida Support Project will include such capacity development, the two main thrusts of the capacity development are towards the working groups (and the stakeholders they represent) and the Tanga Municipal Council as a whole (Outputs 7 & 8). It will include training courses (both in Tanga and at national institutions where necessary), on-the-job training support, community training initiatives, and study tours.

A training needs assessment will be carried out early on in the support project for municipal staff, working group members and other "project groups", including industrial and business interests, existing community and interest groups (Ward and *mtaa* leaders, NGOs, CBOs, etc..) to determine and plan the nature of training and capacity development activities needed to support the Sustainable Tanga Programme and the adapted environmental planning and management process as is required in a practical and useful way. This TNA will set out a training plan and schedule laying out the practical needs for the first year, and desirable ones for subsequent years. For the immediate training, course materials will be developed by relevant experts and institutions as necessary. The overall emphasis of the training shall be on the simple practical needs, particularly those to support decision-making by the working groups. Much of the real capacity building will come from "doing", so care should be taken not to do too much formal training, and to evaluate the practical results of the training which is carried out. Note should be taken of the training experiences in other sustainable cities programmes in Tanzania.

With respect to Tanga Municipal Council, it should firstly be noted that one would expect that *at least 40% of working group members will be from within the Tanga Municipal Council* and will also benefit from the capacity development referred to above. For other more "formal" departments of the Tanga Municipal Council, training and capacity development needs will similarly, but separately be assessed. Taking into account other capacity development activities (e.g. LGRP, USRP) which have recently taken place or are planned, the capacities and procedures of Tanga Municipal Council relevant to the Sustainable Tanga Programme will be assessed. A strategy will be developed for both training programmes (as above) to develop and enhance necessary skills and familiarise Tanga Municipal Council "departmental" staff with the aims and procedures of the Sustainable Tanga Programme, and also to provide those departments with necessary equipment. Although the decision-making of the Sustainable Tanga Programme will take place in the working groups, they are, after all, temporary committees of stakeholders – thus long term measures should take place in the relevant departments; similarly financial systems, etc... Care should be taken not to create a "project island", but to integrate Danida support to the Sustainable Tanga Programme and the Tanga Municipal Council as a whole with a long term view.

4.5.3 Equipment and Materials

Investment costs will include the purchase of one 4WD vehicle for the Sustainable Tanga Programme (the other vehicle was purchased in 1997 by UNDP prior to UASU's formation, and will continue to be used), eight motorbikes for Tanga Municipal Council staff. Office

equipment will also be purchased for STP management and for Tanga Municipal Council departments as relevant. This will include computers, software and printers as needed for Sustainable Tanga Programme staff (including the secretary and accountant to be provided by the Tanga Municipal Council), the TA, the STP Administrator, and relevant municipal departments. For the Sustainable Tanga Programme office, a photocopying machine (care should be taken to purchase one with locally available spares, as the one purchased under UNDP in 1997 is not functioning), fax, telephone equipment, and modems as necessary for e-mail/Internet connection will be purchased. Recurrent costs will also be met including those for running the office and vehicles.

4.5.4 Environmental Development Fund

An Environmental Development Fund (EDF) will be established under the Sustainable Tanga Programme (Danida Support Project). The overall objective of this project funding mechanism is to support implementation of environmental projects developed under the action plans prepared by the working groups.

One of the first steps of the Sustainable Tanga Programme (Danida Support Project) will be to develop guidelines for operation of the EDF, based largely on the experience which will have been gathered by that time from the SWMP, SIP and SAP projects.

The "demonstration projects" projects should be the first to be financed through the EDF, and a small number of these projects (which will be straightforward and implementable in a short time frame) shall be selected from the action plans developed by the Working Groups over the period before Danida support starts – depending on the size of the projects selected, perhaps 2, maybe 3 should be chosen. The aim of these "demonstration projects" is to give further practical experience and encouragement to members of the working groups; and to establish the project as action-orientated. At the time of writing, it is too early to select these demonstration projects - working groups have only met 2 or 3 times in some cases; they should however be selected just before the Danida support project starts.

The guidelines for the administration of the EDF and funding of projects shall include a formalised project cycle and linked also to the environmental planning and management nature of the Sustainable Tanga Programme. This formalised project cycle shall include the "traditional" project stages of identification, preparation, appraisal, approval, implementation, completion and evaluation.

It is envisaged that in the development of issue-specific strategies by working groups, such projects would be at the basic identification, broad costing stage. In developing prioritised action plans (which should be on an annual basis to ensure a focus is maintained on what is implementable within available resources in the coming year, and to avoid unfruitful detailed planning), working groups may need to ask community groups to take projects to a more detailed preparation stage. Care needs to be taken not to delay implementation of action plans waiting for approval of annual action plans but equally there are many dangers in embarking on implementation of projects on an ad hoc basis – as experience in Mwanza has shown, it is very easy to end up with an overwhelming number of projects that cannot be given the full attention they need. It is planned that the initial demonstration projects implemented over the first, say, six months of the support project will provide both time for a pipeline of projects for the following year, and lessons to be incorporated in their implementation (and so on, on an annual rolling basis). Overall the numbers of projects and their implementation has to be kept in an effective balance with the ability to support and implement them.

Once such *annual action plans* are approved, additional specific assistance from the Sustainable Tanga Programme may be needed to enhance detailed designs, costings, and

other such technical aspects – an appraisal stage. It should be noted here, and in other respects, that *the role of the Working Groups is in decision-making and co-ordination* of activities – they should not seek to do the work themselves as individuals, but to direct it, and call upon resources and funds made available through the Danida Support Project, and others available to the Sustainable Tanga Programme to provide necessary support (including hiring people or organisations to carry out specific tasks). Some distinction needs to be made perhaps between the working groups and the groups directly implementing projects: these project groups are defined in section 5.1.1. With respect to the working groups what should be borne in mind is that there are limits as to what can be reasonably expected from persons working on a voluntary basis, and who receive only a small transport and lunch allowance (no attendance allowance or salaries from STP, although they may perhaps from whom they represent).
Once the appraisal stage (refer to project cycle mentioned above) of an EDF project is completed as shown above, the project will, prior to PSC approval, be endorsed by the Municipal Management Team and presented to the Finance Committee, and when necessary the Full Council for approval of funds. In considering such approval of EDF projects, the considerations which should guide the MMT and PSC are:

- Projects must address causes of and solutions to environmental problems within Tanga Municipality
- Projects must be approved by relevant working groups and be related to action plans (and if necessary for say a large environmental project submitted by a third party this may entail a mini-consultation and formation of a new working group)
- Should conform with Danida's development assistance policies including poverty reduction, and cross-cutting issues including gender, human rights, good governance, decentralisation, democratisation, and participation aspects, including EPSF guidelines for South Africa. These should apply to the design of the project application, its implementation, and to the impacts of the project.
- Projects must include a commitment of stakeholders and beneficiaries to *co-financing* the project.
- The appraisal of the project for EDF funding must be complete in financial, social, and technical aspects, and must include a timeframe and an exact description of roles of all parties involved in the implementation.

Another aspect which the Sustainable Tanga Programme management team will perhaps need to consider is the degree to which the EDF should be linked to Tanga Municipal Council's own Women Development Fund, which funds many similar activities for women's and youth groups. For example, it may be appropriate and applicable in certain projects for the Women Development Fund to co-fund an EDF project.

The detailed criteria and guidelines for funding should be further developed by the STP Management Team, and submitted to the Danida Support Project PSC for approval.

In the design of the Sustainable Tanga Programme(Danida Support Project), and in consideration of the experience in EDF projects in the SMWP to date, it is proposed that there be 3 "types" of EDF project. The aim of dividing them in this manner is *to streamline the management of their implementation*;

- *Community-level projects*. In any one year, it may be possible to implement a number (say 5-10) of these, depending on cost, complexity, etc.. and the number implemented may indeed rise in time with the capacity of Sustainable Tanga Programme. The aim here is to fund small community initiatives.

- *Municipal-level projects*. In any one year, it might be possible to implement, say 2-3 such projects. These may come from a variety of sources. For example a number (say 15) of community groups may come forward with proposals/requests for environmental projects to improve drainage. Because such an issue may be seen to affect many different areas of Tanga Municipality, and rather than implement them as 15 separate projects under the same working group, each requiring the full EDF project cycle, it makes operational sense to group them together as one "project".

  Other municipal-level projects may be those which are otherwise considered important to affect the city as a whole – e.g. a hazardous waste problem in one part of the municipality. Such municipal level projects will probably be an order of magnitude more costly than community-level ones (although this is not certain, the street lights project implemented by the Sustainable Tanga Programme provides a non-environmental example of implementation of a low-cost municipal level project). The aim here is to make strategic use of limited financial and management resources for implementation.

  There is an inherent danger that these projects could be hijacked by special interest groups; care should be taken that guidelines are developed which also ensure these projects enjoy genuine community support. The PSC will need to ensure that this is indeed the case.

- *CPT projects for industries, small-scale enterprises and the informal sector*. Although it is possible that such projects could be funded in either of the two ways mentioned above, experience from SMWP, SDP and other SCP projects globally is that a special effort will be needed to include the private sector and industries in environmental projects such as the Sustainable Tanga Programme. By linking to cleaner production in an "non-threatening" way, it is hoped that such projects may be undertaken successfully as capacity and interest permits. At this stage the closest working group to industries has been that on the deteriorating economy, although it is to be expected that the numbers of working groups and issues they address will change over time. Clearly in terms of environmental management, industries in Tanga are of prime importance. Specific guidelines for these type of CPT projects should also be developed, and for the level of funding possible.

4.6 Implementation Strategy

4.6.1 Timeframe

The Sustainable Tanga Programme (Danida support project) is a 5 year first phase of what is likely to be a 10-15 year total project period of the Tanga Municipal Council aimed at achieving the development objective. The Sustainable Tanga Programme (Danida support project) will focus on building upon the achievements and experiences of the Sustainable Tanga Programme, and comprise an initial start-up phase aimed at adapting, applying, and developing an environmental planning and management process, integrating this with the municipal annual planning cycle, and also practical application through implementation of environmentally related projects.

If the approach is considered successful by a Joint review, it may, in line with other similar Danida support projects with the Government in Tanzania, and within the overall framework of support to urban environmental management in Tanzania, be extended for a consolidation phase of 3-4 years with reduced technical support, and perhaps a phasing out and monitoring period sof 2-4 years after that.

4.6.2 Approach

Early tangible outputs – "demonstration projects" selected from the action plans developed by the working groups in the 5 year period since the Sustainable Tanga Programme began, up to the start of the Sustainable Tanga Programme (Danida support project). The aim will be use the EDF to fund a small number of these projects (2, maybe 3) to provide encouragement right at the stakeholder level, have a visible positive environmental management impact, and to provide lessons for developing implementation strategies for the larger number of EDF projects and others to be implemented.

The criteria for selecting the "demonstration projects" should be the guidelines for EDF project funding; perhaps the first draft as one of the first support project activities. As such, the TA should assist the STP in developing these, and selecting the projects which will be put forward to the TMC and PSC for approval.

Stakeholder Involvement: The Sustainable Tanga Programme (Danida support project) offers an opportunity to strengthen decision-making and planning for the municipality. A wide range of stakeholders will attend annual and other "mini" consultations in which the environmental management and planning problems of the municipality are discussed in an open forum. The working groups formed take their "mandate" from this wide cross-section of public support, and the planning, decisions, and recommendations of these working groups thus bring that support into municipal plans. The Sustainable Tanga Programme (Danida support project) will support this democratisation and participation process – environmental planning and management - in many ways, and will help build capacities in stakeholders from the grass roots to the top levels of municipal management.

Monitoring and inclusion of Gender aspects: The involvement of both men and women in the Sustainable Tanga Programme (Danida Support Project) will be emphasised in to ensure a well balanced approach – and these aspects will be monitored and analysed over the course of the project.

Support to the Working Groups: The working groups' main task is decision-making – deciding which strategies to follow to improve environmental management, which actions to take – action plans – and which projects to implement. Approval for funding rests with the TMC Finance Committee and the PSC respectively; The working group members give their time voluntarily as far as the Sustainable Tanga Programme is concerned (although some are paid by the organisations and groups they represent), and it is important that the Danida Support Project helps encourage this stakeholder involvement.

This support can be provided in many ways. One principal way that the Sustainable Tanga Programme (Danida Support Project) can help working groups to make decisions is in ensuring they have the right information to make these decisions. Thus such information will be provided – in the form of feasibility studies by short term experts in relevant fields, and from the relevant municipal departments, design, and costing, mapping, supervision, many other studies and a whole host of other such information and support as is described elsewhere in this document. This shall include the staff and equipment provided, offices, meeting rooms, computer and other facilities. It will also include specific training and capacity building, exchange visits and study tours for working group members.

In short, the expertise and facilities of the Sustainable Tanga Programme (Danida Support Project) as well as that which the Tanga Municipal Council is able to provide should be available to support the working groups in developing plans and project proposals as well as implementing environmental projects. It will be the task of the Sustainable Tanga Programme to formulate that support to best effect. Care will need to be taken, however, that a well-funded and staffed project does not distort regular council planing procedures.

Danida rules specifically prevent the payment of "attendance" allowances, fees, or other salary for meetings where people discuss their own development, such as working group meetings, but *transport and lunch costs are contributed towards*. It is worth mentioning that this is in line with Tanzanian Government policy and practice – persons attending meetings at the village and other levels for water supplies and health clinics, sanitation systems, rainwater catchment, and all other forms of development are not paid attendance allowances; to do so would be clearly unsustainable and unaffordable, and it would also be unaffordable to make such payments to members of working groups also discussing water supplies, sanitation, improvements at health clinics, sanitation systems, and the like as the situation is just the same. Much as governments might wish to, it is simply unsustainable and unaffordable to pay people for such activities. The reality is that people who attend working groups must do so because the have a *stake* in the matter under discussion, and it is for the groups or organisations whom they represent to provide any such fees/salary to them.

Note: This lack of allowance payments may very well lead to a slower pace of project activities, but this is to be expected and has been accommodated for in project design.

Income generating activities: One of the project strategies will be to provide support for projects and activities involving suitable environmental improvement which also provide opportunities to persons to generate income. This will encourage willingness to participate fully from especially poorer stakeholder groups; the involvement of women's groups in such activities should receive special attention.

Links to Other SCP Projects: groups from Tanga have already visited the Sustainable Mwanza Programme, and this provided valuable information, understanding and visualisation of many of the aspects of the Sustainable Tanga Programme (Danida Support Project). Many of the staff from Tanga Municipal Council have been to visit other sustainable city projects in Tanzania, and these links will be encouraged and fostered – to the Sustainable Iringa Programme, the Sustainable Arusha Programme, and the Sustainable Mwanza Programme, all of which have similar Danida Support Projects. Visits to other SCP projects, including the Sustainable Dar es Salaam Project, and the Sustainable Moshi Project, which are geographically close to Tanga are easily envisaged. It is to be expected that many of these other municipalities will be "further ahead" than Tanga in the environmental planning and management process, and the Sustainable Tanga Programme should be able to draw upon that expertise and from lessons of experience in their implementation.

Cooperation with SCP: It is anticipated that the support from the national SCP programme of the MRALG through UASU will continue in many respects as it has done over the last few years. This support may include:

- Identification and facilitation of network linkages to other sustainable cities in Tanzania
- Arrangement and facilitation of study tours
- Links to specialised agencies (UNDP, UNCHS, ILO, UNIDO, UNEP, etc)
- Provision of technical assistance towards environmental planning and management, EMIS
- Facilitating staff exchange from one municipality to another
- Links to other national expertise
- Links to training institutions

Use of National Expertise: The Sustainable Tanga Programme (Danida Support Project) will make the maximum use of national expertise in the course of developing the environmental planning and management process and in planning and implementing related projects. UCLAS in particular has a wealth of such expertise and can of course also assist with training

and capacity building. Both within UCLAS and elsewhere, there are many individuals in Tanzania with appropriate expertise in environmental planning and management, and in most aspects, including technical ones, in project implementation.

Sustainable Funding Mechanisms: The project will aim to develop a sustainable funding mechanism for environmental improvements. The Tanga Municipal Council have their own Women Development Fund – administered by the Community Development Department, and into which the Council deposit 10% of their locally generated revenue. Other options should also be discussed with and developed by the Tanga Municipal Council these might include setting up a revolving fund giving loans using council funds, or from other fund raising activities in addition to the disbursement of funds from the EDF if the use could be monitored.

4.7 Budget

The total budget for the Sustainable Tanga Programme (Danida Support Project) is 23,120,000 DKK. The budget is based on the inputs given above, and the detailed basis for the calculation of the budget in Annex 1.

Table 4.1 Budget for Sustainable Tanga Programme (Danida Support Project)

Item	**Budget**
Training, Workshop, Study Tours	1,700,000
Procurement of GIS services	500,000
HIV / Aids	150,000
Other output-related expenditures	450,000
Investments (project vehicle, 8 motorbikes, office upgrading and equipment to prepare and implement information management)	800,000
STP (Danida Support Project) Administrator, national 60 mm	300,000
Operating Costs (office expenses, vehicle operating, internet)	500,000
Auditor	200,000
Joint Reviews	1,000,000
Subtotal	**5,600,000**
Subtotal Contingencies (10%)	**560,000**
Technical Adviser, international, 24 mm	2,400,000
Short Term Consultants, international, 12 mm + 12 mm for the TA	3,360,000
Short Term Consultants, national, 24 mm	1,200,000
Subtotal	**6,960,000**
Environmental Development Facility	**10,000,000**
Total DKK	**23,120,000**

4.8 Assumptions, Risks, and Preconditions

4.8.1 Assumptions and Preconditions

During the Pre-Appraisal Mission in June 2000, the following key contributions from the Tanga Municipal Council were agreed upon, and form critical assumptions and are preconditions for the successful implementation of the project:

(a) Precondition

1. The Tanga Municipal Council shall ensure that the STP Co-ordinator is fully supported by the Municipal Director, that the position is funded by Tanga Municipal Council on a full time basis, and that the position is formally and permanently established with no overlap in duties elsewhere.

(b) Key inputs expected from Tanga Municipal Council (critical assumptions)

1. The Tanga Municipal Council shall ensure that contributions in cash TSH 30 million per annum towards the Sustainable Tanga Programme is included in the Environmental Fund during the Danida support project period. The TMC contributions shall be utilised in line with the principles laid down in the guidelines for the EDF.

2. The Tanga Municipal Council shall ensure that suitable office space and related utilities are made available to the Sustainable Tanga Programme (Danida support project) and the Sustainable Tanga Programme.

The following major assumptions have to be fulfilled for the objectives of the project to be fulfilled:

Key Assumptions to Achieve Development Objective:

- Integration of working group participation in environmental planning and management and in municipal decision-making is supported by all parties
- Political leaders will adopt and support the process with vision and integrity
- The economic situation in Tanga continues to improve
- Improvements in financial and administrative capacities foreseen as a result of LGRP are realised

Assumptions to Achieve Immediate Objective:

- Integrating EDF projects into Municipal Mangagment structure is straightforward and feasible
- Suitable "demonstration projects" are available in Action Plans and project proposals at start up of Danida Support.
- Authorities and institutions support awareness campaigns
- Updating of EP used as method of developing pipeline of "new" issues for working groups to address
- Annual mini consultations will serve as a review to keep the STP and Danida Support Project focussed on achieveable annual targets and priority issues
- Working groups will have genuinely wide representation, enabling meaningful popular participation
- The MMT, departmental staff, and the Council itself will genuinely support the working groups and popular participation in environmental planning and management
- The EMIS will be developed in a simple practical manner as a sustainable support to decision-making.
- Action plans can be kept simple, practical, prioritised and implementable
- Correct Balance can be struck between numbers and type of EDF projects and capacity to implement on an annual basis
- Groups proposing projects will be genuinely and honestly motivated
- Projects will all be developed through the working group process and have wide popular support

4.8.2 Risks

Insufficient Support to Environmental Issues from the Community Level. The communities at the grass root level may not feel that they are able to afford priority to environmental issues. It is hoped that this risk will be mitigated by the awareness promotion and community training activities, as well as genuine community involvement in decision-making.

Insufficient Involvement of the Tanga Industrial Community. There is a risk that industrial and business interests may not be sufficiently involved in the working groups and the adapted environmental planning and management process, or indeed be unwilling to address environmental issues. This is a potentially serious risk, which should be mitigated by encouragement and other assistance towards cleaner production (including finance and assisting with other financial sources), scientific study of the related environmental issues, and in preparation and if necessary enforcement of necessary bye laws.

Local Government Reform. There is a risk posed by the uncertainties relating to the nature and instruments for financing of local government, and the size and structure of municipal staff. The study before the proposed project start-up may provide more detailed consideration of these risks, and means to mitigate them.

Discontinuity in Tanga Municipal Council Staff or a Resistance to Change. There are a number of possible risks relating to the staff and elected members of the Tanga Municipal Council. One is from their relatively low level of salary which might affect their incentive to work to provide support to the Sustainable Tanga Programme. Another is that there may be a reluctance by or resistance from some individuals in accepting and supporting participatory decision making or other aspects. Thirdly there is a risk from discontinuity in both staff and elected leaders, who may be transferred or not re-elected. These risks will be mitigated by promotion activities, training and related study tours provided under the project, by the strengthening of all arms of the Tanga Municipal Council in relation to STP. If discontinuity does affect the support project, these will need to be addressed as best as is possible.

Short term Nature and Limited Scope of the EDF. There is a risk that the EDF mechanism is not developed as a long term sustainable means of addressing environmental issues. Related to this is the risk that the EDF could be used as a source of funding regular council activities. To mitigate these, it is recommended that the Tanga Municipal Council look at long term ways of financing the EDF, and incorporating such projects in plans and decisions within Tanga Municipal Council. It should also be borne in mind that EDF funds are for limited demonstration projects, and as such the scope or level of environmental problems addressed will be similarly limited.

Legal Framework Poorly Applied and Often Inappropriate. The current legal framework is fragmented at a national and municipal level. In addition to the legal and institutional framework governing environmental management, there is also the issue of enforcement of existing environmental laws and regulations. Proper enforcement of existing rules is often enough to alter the whole setting in which a project operates. Enforcement of what already exists can have great impact on community participation and incentives to civic officials. Some of these problems are partially mitigated by the legal components of the LGRP, and it is hoped that the Tanga Municipal Council will be able to develop an enhanced framework of environmental bye laws.

4.9 Indicators and Means of Verification

The indicators mentioned below and indicators based on the Environmental Profile will be further developed during the Inception Phase.

The indicators for the **Development Objective** are:

- Numbers of beneficiaries receiving improved services
- Improvement in environmental living conditions, health including reduced incidents of malaria and other indicators

The means of verification are Tanga Municipal Council reports and statistics; updated environmental profiles; and evaluation, review, annual and progress reports.

The indicators for the **Immediate Objective** are:

- Numbers of Strategies and Action Plans incorporated in Municipal plans
- Numbers of projects from such plans implemented, disaggregated beneficiary data

The means of verification will be Municipal Plans, progress reports, annual reports, evaluation and review reports, and reports of Municipal Consultations.

Indicators for the related **Outputs** include:

- Numbers of EDF projects approved and implemented at the community, municipal and commercial levels
- Circulation figures of project publications and other statistics in relation to awareness promotion
- Numbers of new issues in environmental profiles, audits/EIAs, and other studies
- Numbers of new working groups forming around new environmental issues
- Numbers and content of "mini" consultations
- Numbers and type of training person-days at municipal and other levels, other training and study tour data
- Details of equipment and materials purchased and delivery point
- Numbers of strategies and action plans and contents, incorporated into municipal plans
- Numbers of environmental audits conducted for selected industries and results implemented

The means of verification for these will include: monitoring and completion reports, consultancy reports, minutes of meetings including working groups, PSC and other Tanga Municipal Council meetings, workshop reports, Strategy papers, action plans, project proposals, feasibility studies, training reports, annual and progress reports, training plans and schedules, delivery notes, inventories, physical inspection, the EMIS database, independent reviews and evaluations, needs assessments, newsletters, environmental profiles, consultation reports, EDF and WG guidelines, etc..

A full and detailed description of the indicators and means of verification are included in the Logical Framework Matrix attached as Annex 3.

5. IMPLEMENTATION PROCEDURES

5.1 Organisation Management and Administration

The project organisation will be established so as to ensure institutional integration as well as to facilitate support to the environmental planning and management process. It also aims at developing capacity within civil society and ensuring popular, wide participation in decision-making.

The organisational structure of the Sustainable Tanga Programme reflecting how the Danida Support Project will link into it so as to best provide that support is illustrated in Figure 5.1 overleaf. It should be borne in mind that the structure is reflected as it currently exists, and only the Danida Support Project is yet to be put into place. The organisational structure includes the following entities and positions with responsibilities:

5.1.1 The Sustainable Tanga Programme

The Municipal Director

The Municipal Director is responsible for the running of the council, reporting to the Finance and Administration Committee of the Tanga Municipal Council. The Municipal Director is also head of the Municipal Management Team.

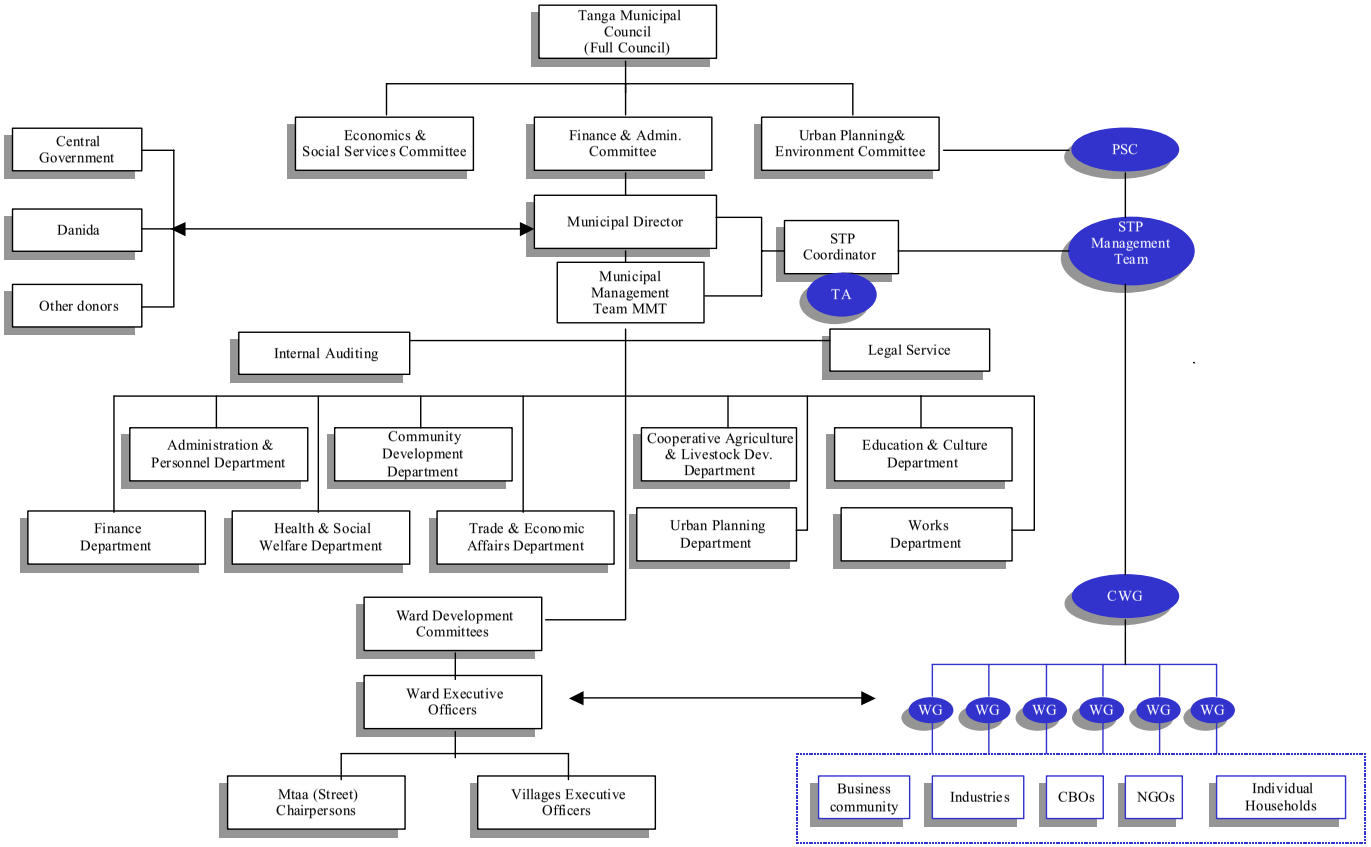
The STP Co-ordinator

The STP Co-ordinator runs the activities of the Sustainable Tanga Programme, reporting to the Municipal Director. She is responsible for coordinating all assistance to the Sustainable Tanga Programme, and this will include the Danida Support Project, as it currently covers the support from SCP at a national level to Tanga from UASU. Main duties include:

- Coordination of working group activities, including preparation of strategies and action plans, and implementation of demonstration and pilot projects developed by the working groups
- Coordination of Sustainable Tanga Programme activities in relation to others within Tanga Municipal Council and Tanga in general
- Facilitate the environmental planning and management process with support from the TA assigned to the Danida Support Project, and with consultants assigned to support the process
- Report to the Municipal Director on a daily basis, and to the PSC in respect of the Danida Support Project to the Sustainable Tanga Programme

The job description for coordinators operating within the SCP, including those related to the Danida Support Project, is presented in Annex 2.

Figure 5.1: STP and Danida Support Project Organisation



The Municipal Management Team

The Municipal Management Team is the technical arm of the Tanga Municipal Council. It is headed by the Muncipal Director, includes the STP Co-ordinator, and is made up of the heads of all departments, which are:

- Finance
- Health and Social Welfare
- Administration and Personnel
- Community Development
- Cooperative, Agriculture and Livestock Development
- Urban Planning
- Works
- Education and Culture
- Trade and Economic Affairs

Within the context of the Sustainable Tanga Programme, the MMT under the Muncipal Director ensures that activites, including working groups and the strategies and action plans produced are coordinated within the framework of plans and activities in Tanga. The MMT will be responsible for providing technical support, being the embodiment of capacity within Tanga Municipal Council (e.g. Urban Planning is where the mapping capacities lie, Finance similarly, etc..) and the Danida Support Project will support, reinforce, and utilise those capacities as the Sustainable Tanga Programme has sought to to date. The Danida Support Project will not seek to duplicate those capacities.

The MMT and thus the relevant departments of Tanga Municipal Council will thus support and review the technical and financial aspects of strategies, action plans, and specific project proposals, including municipal contributions to those in financial, material or personnel terms.

Coordinating Working Group

This will be made up of the Coordinators of the different active working groups under the Sustainable Tanga Programme, and will be a forum for the exchange of experiences and other coordination between the different working groups. The formation of a Coordinating Working Group was made by TMC and the working group members themselves – the principle reasoning being that 10 working groups each composed of 10 or more people becomes too large a number for an effective coordination meeting. The exact role and activites of the co-ordinting working group (effectively a committee of working group co-ordinators) should be clearly defined in guidelines developed in the early stages of the support project and approved by the MMT and the TMC and endorsed by the PSC.

Working Groups

Working Groups include all stakeholders identified for the particular environmental issue. Based on the beneficiary groups, Working Groups may be gender and/or age specific. Working groups will carry out their activities in accordance with specific guidelines to be established in the inception phase of the Sustainable Tanga Programme (Danida Support Project), developed as part of that support and approved by the MMT and the TMC, and endorsed by the PSC. At present there are no formal guidelines or terms of reference for them, and many working group members expressed views that the lack of such guidelines made it difficult for them to understand their exact role and to carry out their duties efficiently.

The members of each Working Group elect a Working Group Coordinator who is responsible for the general facilitation of the Working Group, including calling meetings, co-ordinating the work of possible sub-groups (project groups, see below), liasing with the Sustainable Tanga Programme Management for help on technical and other issues, and for discussion and representation on the Coordinating Working Group.

It is understood that working groups are "temporary committees", and that new working groups will form from time to time in either mini or annual municipal consultations. Working groups will "dissolve" prior to such annual consultations – i.e. members will either offer themselves for re-election or retire, and the consultation will decide which new or continued issues should be addressed. Unless working groups otherwise have a clearly defined start and end to their activities, this should as well as ensuring a "turnover" of issues, provide working group members a face-saving way of stepping down – experience in the Sustainable Dar es Salaam project indicated that one of the reasons that working groups lost momentum was that some persons served on them for too many years, and some working groups continued similarly for too many years.

The Working Groups primary function is concerned with participatory decision-making with respect to environmental issues and their planning and management. Working groups are responsible for preparing Strategies and Action Plans, and represent the views of a broad section of society – as reflected in their "mandate" from the municipal consultation, and the broad range of stakeholders on the Working Group itself. The Working Groups develop these plans with support from the Sustainable Tanga Programme (and thus the Danida Support Project) - this will include funding of activities, studies, assessments, and other work that relates to the environmental issues.

Strategies and Action Plans developed by the working groups and the Sustainable Tanga Programme, will be subject to approval by the MMT and the TMC, and then approved by the PSC. It is intended that they should be formally adopted by the Tanga Municipal Council and incorporated into their Annual Municipal Plans. The PSC will approve inputs from Danida such as funding and consultancies.

Danida thus assists the implementation of projects from the Action Plans by the TMC. The Working Groups, along with Danida and TMC are responsible for monitoring the implementation of approved projects.

Project Groups

Under working groups addressing particular environmental issues, there may be "sub-working groups" or "project groups" – effectively project committees who may form for a specific project planning and implementation, and for community-level project these may be at Ward level or mtaa level. The principle behind these smaller groups is mostly to involve all parties at the appropriate level in determining environmental management. These project groups will also need formal guidelines which lay out how they relate to the Working Groups, the STP and the TMC overall, their roles and responsibilities and the level of support including funds they can expect to receive towards the project. These guidelines should also be established in the inception phase of the Sustainable Tanga Programme (Danida Support Project), and approved by the MMT and the TMC, and endorsed by the PSC.

Partner or Implementing Agencies

The legal implementing agency is the TMC, the legal arms of which are the MMT and the STP with respect to the Danida Support Project. The partner implementing agencies include the various stakeholders engaged in developing the Action Plans and the projects for implementation. These agencies include the Non Governmental Organisations (NGOs), the

Community Based Organisations (CBOs), the Ward Authorities, the private sector and others. These groups will participate in the Working Groups. These groups will be the key implementers of the projects supported by the Sustainable Tanga Programme. It should also be noted that some projects will be implemented by contractors, perhaps with supervision from professional consultants.

Ward Development Committees

The Ward Development Committees comprise of the Ward Executive Officer and the mtaa leaders in urban wards and the Village Chair in rural wards. They are involved in local community based activities and also serve as one of the communication channels between local residents and the WG's of the Sustainable Tanga Programme. They are legitimate government structures with formal lines of command to the Municipal Director and hence the MMT and TMC. Clearly close coordination is needed between these committees and the Sustainable Tanga Programme as both are arms of the TMC working at the community level. Aspects worthy of note include:

- Working Groups are informal, temporary and transient structures that report to the STP Coordinator who then coordinates with the Municipal Director.
- Ward Development Committees are based on geographic divisions and are not necessarily issue driven.
- Working Groups are issue specific groups that may not follow geographic boundaries.
- Ward Development Committees are completely dependant on TMC revenue raised from difficult sources such as taxes, cess and Government transfers. Working Groups are dependant on PSC and TMC approval only.

All these differences offer room for distortion of regular TMC planning procedures, thus coordination between the STP and the Ward Development Committees should be as close as possible.

5.1.2 Sustainable Tanga Programme (Danida Support Project)

The Project Steering Committee

The main responsibilities of the Programme Steering Committee (PSC) are the following:

- Provide policy direction for the project, including guidance and supervision to the Sustainable Tanga Programme(Danida Support Project) Management;
- Secure co-ordination between national SCP activities and Sustainable Tanga Programme (Danida Support Project) activities through the Municipal Director;
- Approve (a) criteria for EDF funding activities (b) Action Plans and associated projects in relation to Danida funds including the EDF, and (c) 'demonstration projects' projects funded by the EDF;
- Meet the Sustainable Tanga Programme Management quarterly and approve quarterly/bi-annual activity plans and budgets.

The members of the Steering committee will be:

- 3 Councillors from Tanga Municipal Council (to include the Chairperson of the Urban Planning and Environment Standing Committee)
- The Municipal Director
- 2 representatives of the business community/private sector

- 2 representatives of the NGOs/CBOs (to include women's or youth groups)
- The STP Co-ordinator (ex-officio)
- The Technical Adviser (ex-officio)
- A representative of the Royal Danish Embassy
- A representative of PORALG

The members of the PSC will be elected by the various groups to be represented in the PSC. The PSC will have quarterly meetings, except during the inception phase, when it will meet as is needed and feasible to facilitate the start-up and provide timely decision making for the Sustainable Tanga Programme (Danida Support Project). It is expected that 6 voting members would represent a quorum, provided all members are given statutory notice to attend.

The Sustainable Tanga Programme(Danida Support Project) Management

The project will operate through the Sustainable Tanga Programme(Danida Support Project) Management, which will consist of the Municipal Director, the STP Co-ordinator, The Finance and Planning Officer, and the Technical Adviser. The Sustainable Tanga Programme Management will be in charge of the day-to-day management and decision making of project activities. The administration will comprise a STP Administrator, an accountant, two secretaries and drivers.

The Sustainable Tanga Programme (Danida Support Project) Management will be fully accountable to the Programme Steering Committee (PSC).

The Technical Adviser

The main responsibilities of the Technical Adviser are:

- A primary focus on the support to the Working Groups.
- Support the STP Co-ordinator in ensuring overall strategic direction and adherence to the environmental planning and management process;
- Assist the STP Co-ordinator in the facilitation of the environmental planning and management process in the Working Groups and with stakeholders;
- Recruit staff, including the STP Administrator and be financially responsible for the Danida Support Project funds;
- Report to Danida and be an ex-officio of the PSC.
- Advise the TMC, the Sustainable Tanga Programme Management, and the Working Groups regarding Danida guidelines.

The Job Description for the Technical Adviser is included in Annex 2.

The STP Administrator

The main responsibilities of the STP Administrator include staff management, financial administration, compilation of reports and regularly reporting to the Project Management on administrative matters. A Draft Job Description is presented in Annex 2.

5.2 Monitoring and Joint Review, Reporting and Evaluation

5.2.1 Monitoring

- Environmental Monitoring

  The various activities related to Output 4 will establish and maintain an environmental database and management information system. This will serve as the basis for an environmental monitoring system.

  The details of this will be designed during the initial stage of the project utilising data collected in the ward level environmental baseline studies, then further developed and refined continuously during implementation. The system should be fully compatible with In line with other Danida assisted Municipalities in Tanzania. The EMIS will be oriented towards environmental data collected at the ward level, and will be based upon straightforward and readily available information, reports will form the basis for updating the environmental profiles. In addition, the information gained through the monitoring and evaluation of action plans will be collected together to establish a baseline of effective practice, and be used to guide further planning.

- Baseline and Follow up

  Ward environmental profiles has been prepared from data available in the EMIS in order to assist Working Groups with developing strategies, action plans, and problems that address local environmental needs and problems. However, the information in these profiles will also serve as a baseline against which later to measure the impact of the Danida support project to the Sustainable Tanga Programme.

  The baseline data consists of simple quantitative and qualitative information on environment, poverty, and gender, gathered at the ward, *mtaa*, village, and *kitongoji* level. The data has been gathered using participatory methods. (The rationale for this lies not so much with the needs of the baseline, as with the process objectives behind preparing local profiles, that is, to begin building awareness among residents about environmental problems.)

  The baseline study has been completed before the project begins, so as to ensure that data are collected before the project has an impact, and are available to use in planning initial project activities. Follow up studies will be done at least twice, in the middle and at the end of the Danida Support Project to the Sustainable Tanga Programme, to monitor progress toward the immediate and development objectives. Reports on the findings, from the two follow up studies will be submitted to the Project Steering Committee.

  The follow up studies will be coordinated with others carried out in Danida assisted municipalities and with other municipal baseline studies and surveys currently being carried out or planned by the Civil Service Department, the Local Government Reform Programme, and the DIFD Poverty Reduction in Partnership with Urban Authorities. Although these latter studies do not focus on the environment, they will be measuring variables such as poverty and service delivery, which need to be controlled for in assessing the impact on the environment of the Danida support project. "Coordination" in this context means reviewing the methodologies of the other studies, discussing these with the implementers, and sharing data and possibly data collection with other studies carried out in Tanga. Furthermore, the hardware and software for the EMIS should be fully compatible with the systems used in the other Danida assisted municipalities.

- Logical Framework Monitoring – Project Progress

  The logical framework provides a basic tool for monitoring implementation in terms of outputs and costs, and reporting on this to the Project Steering Committee (see the section below Progress Reports). To do this, the logical framework must be set up on a spreadsheet or database that indicates planned and actual outputs (in terms of verifiable indicators), budget, and expenditures for each activity during various time periods (e.g., entire project period, current reporting period, to-date). This in turn implies that the detailed project accounting system must also be organised around activities as defined in the logical framework, and that the accounting program must integrate easily with the logical framework spreadsheets.

  Project management will be responsible for setting up the logical framework monitoring system within three months of project inception (see the section below on Inception Report). This will in all probability require the assistance of a short-term consultant, who will also help set up the project accounting system and train staff to use both systems as is necessary. The Project management will be responsible for regularly updating the logical framework system with financial and physical data. The Project Steering Committee, Tanga Municipality, or Danida may request an up-to-date copy of the logical framework at any time. The Project Steering Committee will in any case receive updated copies of the framework four times a year as part of project financial reports.

5.2.2 Joint Project Review

The Government of Tanzania and Danida will review the project twice, fifteen months and thirty-nine months after the commencement of the project (this is taking into account the three month inception period). Both Joint Review Teams will evaluate and make recommendations in regard to project achievements, strategies, activities, and so forth. The Second Joint Review Team will also recommend whether a second phase should be planned, and if so, its focus and modalities.

5.2.3 Project Reporting

Efforts will be made to develop reporting guidelines that closely resembles those of the Tanga Municipal Council where and when possible. Reporting will also have to comply with Danida's guidelines and will as a minimum include:

- *Inception Report*

  Three months after the arrival of the TA to Tanga, the project management will submit an Inception Report to the Steering Committee. The Inception Report should include:

  - A description of major problems of staffing, provision of agreed Government of Tanzania services, facilities, equipment, personnel, and the likelihood of achieving the proposed outputs,
  - A description and justification for any recommended revisions in the logical framework or activity budgets based on a review of the project document
  - A printout of the computerised logical framework, indicating outputs (in terms of verifiable indicators) and budgets for each activity for the project period and first year,
  - A description of the detailed project accounting system based on the logical framework, and examples of the financial summaries/analyses that it can produce,

- A review of the overall and annual implementation schedules for each activity and output, including a bar chart summarising these
- The detailed budget and action plan for the first year,
- A review of the status of the environmental planning and management process (e.g., Working Groups, production of strategies and action plans, action plan implementation),
- A review of progress with regard to miscellaneous start-up activities such as establishing bank accounts, and
- the format that will be used for the Progress Reports.

The Project management should produce a final Inception Report incorporating comments and suggestions from the Project Steering Committee and other stakeholders.

- *Semi-annual Progress Reports*

The Project management will submit semi-annual progress reports to the Project Steering Committee. The format of these reports should be an adapted version of Annex 9 in Danida's *Guidelines for Sector Programme Support* (May 1998), which lays out a format for component progress reports or a similar format agreed upon by the partners in the Project that fulfil the reporting requirements of the TMC and Danida.

Each progress report must include a printout of the logical framework indicating, for each activity, actual outputs (in terms of verifiable indicators) and expenditures compared to target outputs and budgets, and commenting on any discrepancies between the two.

Each progress report must also contain an activity plan for the coming six months. The Working Groups and municipality must participate in deciding upon these plans. Other stakeholders may be included as well.

- *Quarterly Financial Reports*

The Project management will keep the Tanga Municipal Council fully informed about the financial status of the Danida Support Project. The Semi-Annual Progress reports will contain a logical framework showing expenditures versus budgets for each activity, and also a summary of the project's financial status (described in Annex 9, *Guidelines for Sector Programme Support*, Danida, May 1998). In the two other quarters, the Project management will provide the council with a financial report containing the logical framework and the financial status information. The STP Management is obliged to forward fiscal reports to the Royal Danish Embassy.

- *Baseline Study and Follow up Study Reports*

As indicated above, a baseline study has been carried out prior to project start up. Two follow up studies will be carried out, in the middle and at the end of the project, to monitor progress toward the immediate and development objectives. Two reports on the findings, from the follow up studies, will be submitted to the Project Steering Committee.

- *All other Reports*

It is expected that many reports will be produced in the course of the Danida Support Project to the Sustainable Tanga Programme, and a number of those anticipated are outlined in Chapter 4 on the Logical Framework for the project, and in the related Annex 3. Short-term consultants will prepare at minimum a final report on their activities. The STP management will approve these, including feasibility studies etc. Any stakeholder can request these reports and other materials produced in the course of the consultancy.

- *Quality Assurance*

  The Project management will ensure that quality assurance of professional inputs is performed and documented, so that a quality audit can be undertaken in connections with the Joint Reviews.

- *Project Completion Report*

  Before project completion, the STP Management Team will prepare a completion report based on an adapted version of Annex 10 in Danida's *Guidelines for Sector Programme Support* (May 1998).

5.3 Flow of Funds, Accounting , and Auditing

From the outset the Technical Adviser will be directly responsible for the utilisation and management of the funds provided by Danida. This responsibility will, however, be fulfilled in close collaboration with the STP Coordianator and other members of the STP Management Team.

Efforts will be made in the early stages of the Project to investigate possibilities for channelling funds directely through the Tanga Municipal Council. This would be in line with ongoing efforts to strengthen local governments in Tanzania and to make full use of existing structures, where feasible.

Key activities/responsibilities related to the management of funds include:

- Danida funds used in line with the objectives, outputs, activities, and budgets given in the Project Document and logical framework:

  Any revisions to the logical framework or budget must be agreed upon by and approved by the Project Steering Committee. The Technical Adviser must fully involve the Programme Coordinator, Tanga Municipal management, and other stakeholders in preparing requests for revisions to the budget or logical framework. Major changes will usually take place in connection with joint reviews.

- Detailed project accounting system established:

  If funds cannot be channelled through the TMC, the Project should have a detailed accounting system organised around activities in the logical framework. That is, the system must be capable of tracking expenditures relative to budgets for each activity in the logical framework, and for each budget item (e.g., allowances, transport, equipment) making up an activity budget. The system must provide financial management analysis (e.g., budget versus expenditures on items such as allowances, running costs, and so forth). The system must also integrate easily with the logical framework spreadsheets (see above the section on Logical Framework Monitoring). Finally, the accounting system must provide the data required by Danida, as explained in the *Guidelines for Decentralised Project Accounting* (April 1996). Establishing this system will require the services of a short-term consultant at the beginning of the project.

- Project Accountant supervised:

  A certified public accountant, approved by Danida, will audit the accounts on behalf of Danida.

- Accounts of organizations carrying out assignments audited, as necessary:

  Any NGO or similar organisation that receives project funds must keep detailed accounts. The Project management can request audits of these accounts.

- Payments made:

  Based on Government of Tanzania regulations and rates established by the Royal Danish Embassy: The nature of the payment will determine which regulations or rates are applicable. Examples of payments that follow government regulations are per diems and travel allowances for government staff in Tanzania. Examples of payments that follow Embassy regulations are salaries for direct hire staff and fees for local consultants and for travels abroad.

- Two bank accounts managed through dual signatory:

  Using the decentralised Project Accounting System, the technical Adviser will establish two bank accounts in Tanga: (1) one account to cover local investment and operational costs; and (2) one account to cover expenses under the Environmental Development Fund (EDF). Disbursements from each account will require both the signature of the Technical Adviser and the signature of the Municipal Director or the Sustainable Tanga Coordinator. Disbursements for the EDF account will be according to predetermined and transparent criteria. If and when it is deemed feasible to channel funds directly through the TMC, the details of the procedures for so doing must be worked out in close collaboration between the Royal Danish Embassy and the TMC and presented to the Programme Steering Committee for approval.

- Tanga Municipal Council and Government of Tanzania fully informed as to project's financial status:

  If the decentralised Project Accounting System is opted for, the Tanga Municipal Council will have full access to financial information about the project, and receive quarterly financial reports, as described above in Section 5.2.3. The Project management through the Municipal Director will keep the Government of Tanzania informed about the financial status of the project.

  A considerable gap exists between administrating the Project through the decentralised Project Accounting System as just described, and the vision for the future administration of funds to SCP programmes supported by Danida in Tanzania. Ultimately, Danida would like to provide support for environmental activities directly to the municipality, and not maintain a Technical Adviser and so forth at the municipal level. As a transition toward this future, the Project management will look into transferring accounting responsibilities more fully to the municipality. Similarly, the management will investigate how to integrate the Danida Support Project to Sustainable Tanga Programme and municipal planning and budgeting formally.

5.4 Project Implementation Plan

An overall draft Project Implementation Plan for the first 4 years of the Sustainable Tanga Programme (Danida Support Project) is outlined overleaf. A detailed Activity Plan and Budget covering the first 12 months will be prepared and submitted as part of the Inception Report.

The Programme Steering Committee will approve the annual Activity Plan. The Activity Plan will be updated three months after the Inception Phase has been completed and according to needs and approved by the PSC as part of the progress reporting.

The project implementation will follow a rolling plan approach, and the aim is to synchronise this with the municipal annual planning cycle, and to have the Sustainable Tanga Programme plans included in those Municipal Plans. Thus the logical framework should be used to guide the overall direction of activities, but these are not set out in detail for the entire project period within that framework.

The development of these annual rolling plans will involve close dialogue with stakeholders in the Working Groups, and the planned projects will depend upon resources available and capacity. At the end of each period stakeholders will assess achievements and adjust plans accordingly for the subsequent period.

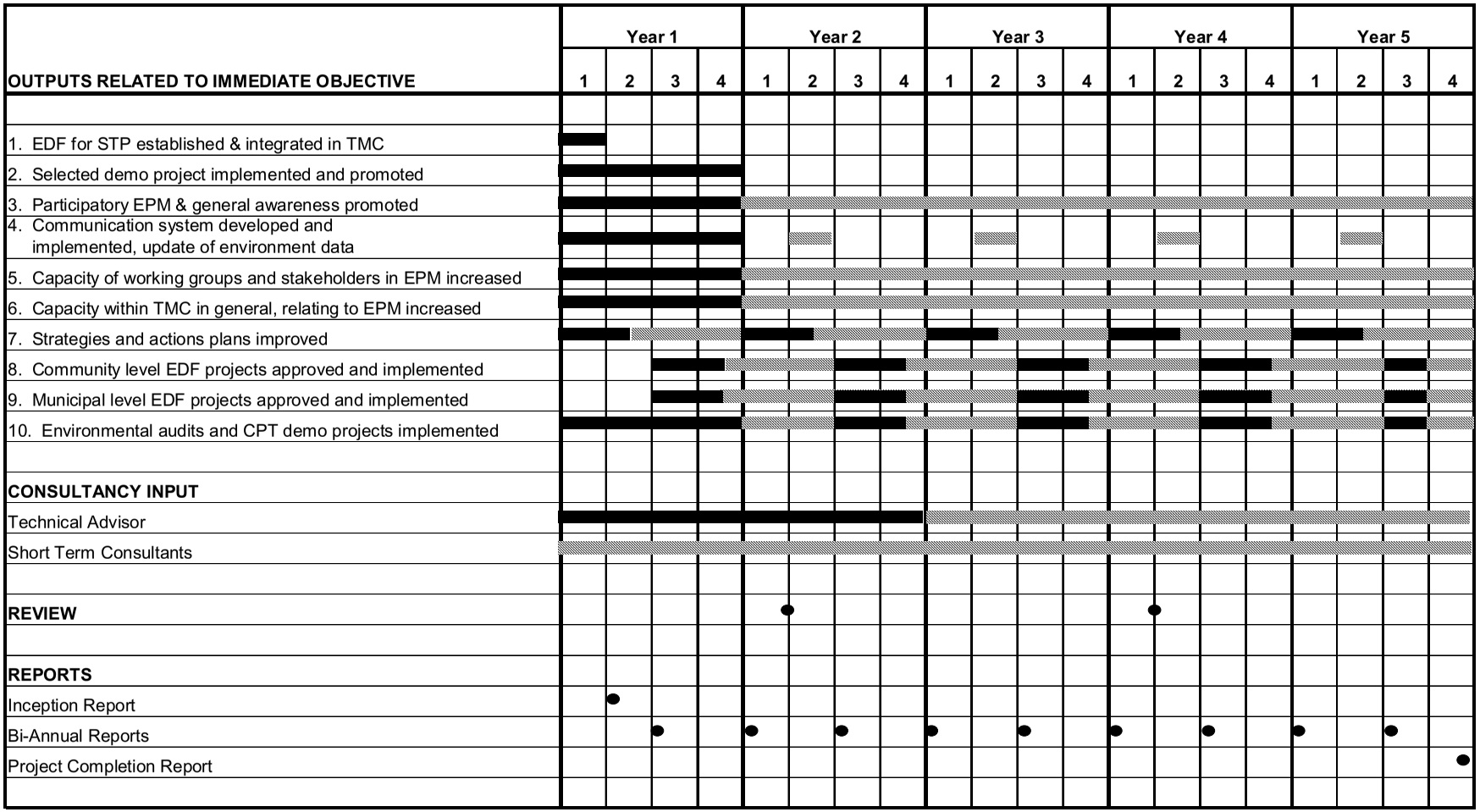


Figure 5.2 Project Implementation Plan

Danish Ministry of Foreign Affairs **Danida**

Project Document
(Annexes)

Sustainable Tanga Programme
(Danida Support Project)

Tanzania

This report contains restricted
information and is for official
use only

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Annex 1: Detailed Budget

Annex 1: Detailed Budget

1 *Technical Adviser*

The figure is based on Danida's standard budget of DKK 1,200,000 per year including salaries and all costs. (DKK 100,000 pm)

2 *STP Administrator*

The figure is based on Danida's salary scale for national academic staff and includes all employment related costs.

3 *Short Term Consultants, International*

The figure is based on an overall cost of DKK 140,000 per person-month including all related expenses.

4 *Short Term Consultants, National*

The figure is based on an overall cost of DKK 50,000 per person-month including all related expenses.

5 *Training, Workshops and Study Tours*

The budget is based on the following lump sums:

Courses In formal institutions: 1000 days at DKK 300	DKK	300,000
Workshops: 20 events at DKK 10,000	DKK	200,000
Training of Working Groups: 10 groups at DKK 30,000	DKK	300,000
Study Tours in Tanzania: 3 trips × 40 people × DKK 5,000	DKK	600,000
Training equipment and materials	DKK	200,000
Mini Consultations	DKK	100,000

6 *Procurement of GIS services*

The budget is based on:

PC, A3 printer, Software for basic operation of GIS info	DKK	150,000
Purchase of maps	DKK	350,000

7 *HIV/Aids*

Lump sum for:

Support to ongoing programmes and work	DKK	150,000

8 *Other Output Related Expenditures*

Lump sum for:

Special intervention, printing, brochures, broadcasts, materials and equipment	DKK	450,000

9 *Investments*

Project vehicle 4WD	DKK	250,000
8 motorbikes	DKK	150,000
5 computers with software and printers	DKK	100,000
Office furniture	DKK	50,000
Equipment for information management	DKK	150,000
Copy machine	DKK	25,000
Safe, cameras, video equipment, OH	DKK	50,000
Miscellaneous	DKK	25,000

10 *Operating Costs*

Operation costs per year estimated at DKK 100,000. This includes:

International mail connections	DKK	5,000
Telephone	DKK	40,000
Office stationary	DKK	10,000
Printing, photos, slides, videos etc.	DKK	30,000
Courier, mail	DKK	10,000
Miscellaneous	DKK	5,000

11 *Auditor*

Based on the Danish Embassy's regulations	DKK	200,000

12 *Joint Review*

Includes 1st & 2nd reviews undertaken	DKK	1,000,000
(Royal Danish Embassy-MIFRESTA regulations)		

Budget lines related to outputs:

Item	Budget	Reference to Outputs
Training, Workshop, Study Tours	1,700,000	3, 5, 6, 7
Procurement of GIS services	500,000	4
HIV / Aids	150,000	
Other output-related expenditures	450,000	3, 5, 6, 7,8, 9, 10
Investments (project vehicle, 8 motorbikes, office upgrading and equipment) to prepare and implement information management)	800,000	4
STP (Danida Support Project) Administrator, national 60 mm	300,000	
Operating Costs (office expenses, vehicle operating, internet)	500,000	
Auditor	200,000	
Joint Reviews	1,000,000	
Subtotal	**5,600,000**	
Subtotal Contingencies (10%)	**560,000**	
Technical Adviser, international, 24 mm *	2,400,000	
Short Term Consultants, international, 12 mm + 12 mm for the TA	3,360,000	
Short Term Consultants, national, 24 mm	1,200,000	
Subtotal	**6,960,000**	
Environmental Development Facility	**10,000,000**	1, 2, 7, 8, 9, 10
Total DKK	**23,120,000**	

Annex 2: Draft Job Descriptions

JOB DESCRIPTION

1. STP Co-ordinator

The Job Description of the STP Co-ordinator is based on the standard job description prepared by MRALG.

The Programme Coordinator will be the day-to-day professional leader of programme activities reporting to the Municipal Director who is the overall responsible executive of the Tanga Municipal Council. He/she will consult and coordinate with the EPM process replication unit at the MRALG. The coordinator will be the Head of a Department of Tanga Muncipal Council.

The Sustainable Tanga Programme is funded by Tanga Municipal Council (and other donors as who may from time to time assist the programme). The Sustainable Tanga Programme (Danida Support Programme) will be funded jointly by Danida and the Tanga Municipal Council.

Development and Integration of the Environmental Planning and Management Process

1. Introduction of the Environmental Planning Management (EPM), with technical support from the EPM process replication in UASU, the Sustainable Tanga Programme (Danida Support Programme), and from other global and national sources as may be available (e.g Habitat).
2. Management of the programme as a whole in close cooperation with the Municipal Management Team, with reference to Programme Steering Committee in respect of the Sustainable Tanga Programme (Danida Support Project), and in close consultation with National Programme Co-ordinator of SCP, and other relevant partners.
3. Ensure close liaison between UASU in Dar es Salaam, Danida, UNDP Dar es Salaam and the Sustainable Tanga Programme. Co-ordination of preparation of Tanga municipal environment profile(s) which will be gender responsive. On the basis of this(ese) environmental profile(s) hold municipal consultation(s) to discuss and prioritise environmental issues.
4. Based on the environmental issues of priority ensure and monitor establishment of environmental issue Working Groups, the routine activities of which will include elaboration in detail on the environmental issues, formulation of strategies and action plans for addressing them.
5. Facilitate and strengthen the daily work of leaders of the Working Groups by ensuring that they are provided with physical facilities and resources for their operation. Furthermore, assist in formulating detailed workplans leading to the generation of the expected outputs as described in the Project Document; obtain consensus on the workplan; follow-up its implementation and co-ordinate the working groups' interaction with consultants, with the ultimate aim of institutionalising the EPM process into the municipality and internalising the working group participatory methodology.
6. With decision-making by the working groups and in collaboration with other stakeholders including the Tanga Municipal Council, design and implement demonstration projects to operationalise the strategies and action plans, and larger project implementation where finance and other resources are available.
7. Establishment of a routine updating mechanism to update and fill-in information gaps in the environmental profile.

Managerial and Administrative Duties

8. Preparation of detailed work plans for the achievement of the project outputs and monitoring of the implementation of the work plans.
9. Mobilisation and sensitisation of all stakeholders (public, private and popular sectors, CBOs/NGO) to ensure their participation in the EPM process.
10. Supervision of the finances of the programme, ensuring proper control of expenditures, allocation of resources to the different activities and timely accounting.
11. Ensure that all equipment and other assets procured under the Sustainable Tanga Programme are properly utilised and managed.
12. Organisation and management of the staff (professional and support staff) and work of the Sustainable Tanga Programme (including setting-up and adjusting administrative procedures) in consultation with the Municipal Director.
13. Advise municipal leadership on all matters relating to the EPM process to include, but not limited to, the establishment of environmental issue working groups, advisory committees, task force, etc. as shall be deemed appropriate by the Municipal Council.
14. Work in partnership with other executing and implementing agencies, prepare terms of reference and supervise consultants and contractors.

Resource Mobilisation

15. Ensuring that demonstration projects are "bankable" and securing contribution from the community, business and industrial and other possible partners for their successful implementation.

Capacity Building/Training and Reporting

16. Ensure all previous and current consultations' and workshops' recommendations are implemented as agreed upon.
17. Assess the EPM process training needs of the professional staff, design appropriate training programme and identification of suitable institutions in collaboration with MRALG and the Sustainable Tanga Programme (Danida Support Project), and other bodies as necessary.
18. Review all outputs produced during the Programme, in collaboration with MRALG and the Sustainable Tanga Programme (Danida Support Project), and other bodies as necessary, and ensuring proper documentation and distribution.
19. Monitoring of progress of the Sustainable Tanga Programme and preparation of relevant quarterly and annual progress reports for the Steering Committee.

2. Technical Adviser

The Technical Adviser will be the Danida representative whose main responsibilities will be:

1. To support the STP Co-ordinator in ensuring that the overall strategic direction of the project is in line with the principles of the EPM process.
2. To support the STP Co-ordinator in facilitating the development of effective alliances between different stakeholder groups and communities to address environmental problems
3. To support the STP Co-ordinator in ensuring that mechanisms for equitable involvement of different stakeholders in the Working Groups are established and working effectively.
4. To facilitate the EPM process with particular emphasis upon ensuring that Working Groups' function effectively and develop competency in self-management skills and techniques (problem solving, decision-making, and conflict resolution).
5. To initiate capacity building activities for Tanga Municipality staff and other stakeholders
6. To ensure that monitoring and evaluation of project outputs are undertaken in line with the LFA.
7. To request and manage inputs from short term consultants
8. To report to Danida and be a member of the PSC.
9. To be financially responsible for project funds
10. To be responsible for recruiting and day to day management of project staff.

3. STP Administrator

The STP Administrator will report to the Technical Adviser (TA) and have specific responsibility for:

1. Establishing (in consultation with the TA) and administering financial management procedures for the project on a day-to-day basis.

2. Developing record keeping systems pertaining to Working Groups, training events and community education initiatives

3. Compile and co-ordinate monitoring and evaluation data and produce summary reports as required.

4. Organise and service the administrative needs of the Working Groups.

5. Day-to-day responsibility for staff management.

6. Report to the Project Management on all administrative matters.

Annex 3: Logical Framework Matrix

Logical Framework Matrix: Danida Support to Sustainable Tanga Programme 2001-2005

Objectives	**Verifiable Indicators**	**Means of Verification**	**Assumptions**
Development Objective Contribute towards improved and sustainable urban environmental conditions for the people in Tanga Municipality	• Numbers of beneficiaries receiving improved services • Improvement in environmental living condition health and other indicators	• TMC reports • Evaluation, review, annual, and progress reports • Environmental profiles	
Immediate Objective By 2005, Tanga Municipal Council and other important stakeholders work in partnerships towards the sustainable management of the environment in Tanga Municipality	• Numbers of Strategies and Action Plans incorporated in Municipal plans • Numbers of projects from such plans implemented, disaggregated beneficiary data	• Municipal plans • Progress reports • Annual reports • Evaluations/Reviews • Reports of Municipal Consultations	*Immediate to development objective:* • Integration of STP's working groups related popular participation in environmental planning and management and municipal decision-making and systems, is supported by all parties • Political leaders will adopt and support the process with vision and integrity • The economic situation in Tanga continues to improve • Improvements in financial and administrative capacities foreseen as a result of LGRP are realised
Outputs and Activities			
Output 1: EDF established and integrated within Municipal management structure	• Number and type of issues covered in EDF guidelines • EDF bank account opened • Number of EDF projects endorsed by MMT and FAC, &/or approved where WDF or other municipal co-funding	• PSC minutes • EDF Guidelines • Bank Statement • MMT and FAC minutes • Inception Report	*Output to immediate objective:* • Integrating EDF projects into Municipal Mangagment structure is straightforward and feasible
			Assumptions- Activities to Outputs
Activity 1.1: Develop overall criteria and application procedures for EDF, including co-funding requirements for community level, municipality level and CPT projects, and develop project agreement documents.			• Guidelines can be developed quickly based on experience of SWMP, SIP & SAP EDF projects
Activity 1.2: Obtain approval from PSC, and ensure that integrated within Municipal management structure, link as much as practical to the Municipalities own WDF and procedures			• PSC approval obtained in good time (early in project)
Output 2: Selected "demonstration projects" developed by the STP Working Groups implemented and promoted	• Number of demonstration projects selected from WGs' APs • Number of projects implemented	• Action Plans • Project proposals, consultants' reports • Physical inspection, progress and completion reports • Newsletters, other promotion	*Output to immediate objective:* • Suitable demonstration projects are available in Action Plans at start up of Danida Support Project

Objectives	Verifiable Indicators	Means of Verification	Assumptions
			Assumptions- Activities to Outputs
Activity 2.1: Select suitable demonstration projects for EDF funding from those developed by the STP working groups in action plans in previous 2 years			
Activity 2.2: Develop into project proposals (using short term consultancy input if necessary), seek MMT/TMC approval prior to PSC approval and implement. Ensure project results are promoted (see output 3).			• PSC approval obtained in good time (early in project)
Output 3: Participatory EPM and general environmental awareness promoted.	• Number and type of issues covered in Needs Assessment • Circulation numbers of Kiswahili/English newsletter • Number and type of promotion of environment and STP in other fora	• Needs Assessment report • Newsletter records • Other pamphlets, articles, radio programmes etc. • Mini-survey to assess effectiveness	*Output to immediate objective* • Authorities and institutions support awareness campaigns
			Assumptions- Activities to Outputs
Activity 3.1: Carry out initial needs assessment for awareness on environmental issues and on the STP			
Activity 3.2: In accordance with 3.1, develop an environmental and project newsletter in kiswahili/english and distribute to stakeholders, schools, etc..			
Activity 3.3: Promote STP and the environment in other forums (e.g. radio, pamphlets on specific issues) on regular basis.			
Output 4:Communication system developed and implemented including regular updating of data on the environment based on the EMIS	• Indicators in environmental monitoring database • Indicators in practical EMIS • EMIS Persons trained, related skills • Indicators of project M&E system • Number and type of reports distributed • Number and type of issues covered in annually updated Environmental profile • Number and type of EIAs and Environmental studies/audits undertaken as necessary • Number of other specific (scientific) studies undertaken	• Database Report • EMIS reports, consultancy reports • Training reports • M&E reports • Independently review training programmes and EMIS/GIS systems, assessment of increased capacities • Inspection of EMIS/GIS and monitoring system itself • Baseline and follow up studies • Communication System Plan • Presence and use of equipment • Reports, promotions produced • Updated EPs • Study Reports	*Output to immediate objective:* • The Communication System and EMIS will be developed in a simple practical manner as a sustainable support to decision-making. • Updating of EP used as method of developing pipeline of "new" issues for working groups to address
			Assumptions- Activities to Outputs
Activity 4.1: Develop a comprehensive approach to Project information collection, organization, and dissemination			
Activity 4.2: Procure equipment, assess institutional requirements, conduct training needs			

Objectives	Verifiable Indicators	Means of Verification	Assumptions
analysis			
Activity 4.3: Conduct training			
Activity 4.4: Based upon information since last EP - e.g. EMIS (see output 8), TMC, Working Groups, specific baseline or other studies) update the Environmental Profile for Tanga Municipality using participatory methodologies, STP and TMC staff, and short term consultant inputs as necessary.			• Capacity available within TMC and communities to assist in preparation of EP
Activity 4.5: Undertake environmental impact assessments (e.g. by short term consultancies) for selected areas of Tanga and where possible selected industries. Include such information in updates of the EP. Recommend measures to reduce negative environmental impact for possible project funding.			
Activity 4.6: Hold annual municipal "mini"consultation to re-affirm priorities and the relevance of the Working Groups, and to discuss Sustainable Tanga Programme related activities			
Activity 4.7: Working from baseline study(ies) define a minimum data set for environmental management and decision-making for use in the EMIS			
Activity 4.8: Refine indicators for the project/Sustainable Tanga Programme and means of verification, and collection to enable monitoring and evaluation (training link to 5.2 & 6.2 above) of implementation of the project. Disseminate lessons learned. Carry out follow-ups to baseline study at middle and end of support project.			
Activity 4.9: Prepare strategy for procurement of GIS services			
Activity 4.10: Prepare an annual state of the environment report based on monitoring activity of the EMIS.			
Output 5: Capacity of Working Groups and stakeholders in EPM increased	• Issues covered in Guidelines • Numbers and types of capacities for training • Training programmes (including on site training "by doing")for working group members held, numbers attending • Training programmes for community and interest groups held, numbers attending • Number of Study Tours held, type, persons	• Guidelines • TNA report • Training curriculae and schedules • Training, seminar, and Study tour reports • Independent Training Evaluation report • Quality of Strategies, Action Plans, and other outputs and decision-making by WGs	*Output to immediate objective:* • Working groups will have genuinely wide representation, enabling meaningful popular participation

Objectives	Verifiable Indicators	Means of Verification	Assumptions
	• Training at &/or by national institutions held, number trained		
			Assumptions- Activities to Outputs
Activity 5.1 Secure that the EPM process is in place			
Activity 5.2 Develop clear and simple guidelines/TORs for Working Groups to guide them in their activities, provide operational rules			• Development of guidelines will be timely, based on experience of STP and other SCP muncipalities and Habitat guidelines
Activity 5.3 Devise and implement training to strengthen environmental planning and management skills among working group members and other parties, including industrial and business interests, and existing community and interest groups at various levels.			• Training and capacity building will provide additional incentive to working group members, and people are willing to participate fully in such training. • Persons attending such capacity building and training courses will indeed be "trainable" to required standard in time available
Activity 5.4 Arrange for study tours and training outside the municipality to other SCP municipalities, national training institutions (e.g. UCLAS), that are offered by UASU or others, as appropriate to assist working group members.			• Such study tours and training will be of practical application to projects in Tanga
Activity 5.5 Provide training in project proposal preparation			
<u>Output 6:</u> Capacity within TMC in general relating to EPM increased	• Nos and types of capacities • Persons trained, related skills • Numbers and type of equipment and materials procured	• Assessment reports • Strategy papers • Training Schedules and curriculae • Delivery notes, inventories	*Output to immediate objective:* • The MMT, departmental staff and the Council itself will genuinely support the working groups and popular participation in environmental planning and management
			Assumptions- Activities to Outputs
Activity 6.1: Secure that the EPM process is in place			
Activity 6.2: Undertake overall assessment and review of the capacities (both human resource and material) and procedures of the TMC relevant to the STP			
Activity 6.3::Produce a human resources and organisational strategy for environmental planning and management for development of in TMC, and implement a training programme for relevant municipal staff (link to output 6- municipal officers in WGs). Equipment procured under project to be located in TMC office relevant to that function.			• Persons attending such capacity building and training courses will indeed be "trainable" to required standard in time available • Training and capacity building will provide additional incentive to TMC staff, and people are willing to participate fully in such training.

Objectives	Verifiable Indicators	Means of Verification	Assumptions
located in TMC office relevant to that function.			• This training and capacity building will be linked with that for working groups in a complementary manner.
Output 7: Strategies & action plans improved based on consultations with stakeholders	• Issue-specific strategies prepared, number • Action plans (annual) prepared, number • Number of feasibility studies and other consultancies carried out in support of Aps • Number of workshops, numbers attending • Number of APs incorporated into TMC plan • Number of persons trained	• Strategy papers • Annual Action Plans • Feasibility Study and Consultancy reports • Workshop reports • TMC Plan • Training Workshop reports and materials	*Output to immediate objective:* • Action plans can be kept simple, practical, prioritised and implementable
			Assumptions- Activities to Outputs
Activity 7.1:STP and Working Groups prepare strategies and prioritised Action Plans in accordance with available resources together with the related "project groups" who would implement them (including especially applications to the EDF). Such action plans should be developed on an annual basis to facilitate implementation, with the strategy outlining longer term plans.			• Process of preparing strategies and action plans can be carried out rapidly enough to enable STP to move to concrete actions in say 6 months
Activity 7.2:In support of above carry out such studies (e.g. feasibility studies, etc, by consultancy input or other) or investigations as are necessary to support the TMC, the STP and the working groups to facilitate decision-making. This to be closely linked to outputs 6 & 7.			
Activity 7.3:Action Plans and strategies then discussed in short workshops to include wider stakeholders. Once so endorsed, passed to MMT/TMC for approval, approval by PSC and Incorporated into TMC plans.			• Process of rolling annual action plans is accepted, an d it is possible to incorporate them into municipal plans
Activity 7.4: Training in the preparation of project proposals			
Output 8: Community level EDF projects approved and implemented	• Numbers and type of community-level projects selected and approved • Meetings with "project groups", numbers • Numbers of consultancy (and other) reports on technical backstopping • Numbers of monitoring reports	• WG and PSC minutes • Meeting reports • Consultancy and other technical backstopping reports • Monitoring reports • Completion reports	*Output to immediate objective:* • Correct Balance can be struck between numbers and type of community-level projects and capacity to implement on an annual basis (and with other project types) • Groups proposing projects will be genuinely

Objectives	Verifiable Indicators	Means of Verification	Assumptions
	• Numbers of completion reports • EDF funds disbursed • Indicators for individual projects est. to show environmental improvement	• Independent evaluation Report • Financial and audit reports • Project reports	and honestly motivated • Projects will all be developed through the working group process and have wide popular support
			Assumptions- Activities to Outputs
Activity 8.1: Assist in the preparation of the urban environmental management and development strategic framework			
Activity 8.2: Working from the action plans for that current year, STP and working groups select project proposals with community "project groups" for EDF funding and implementation. Prior to PSC approval, present to MMT/TMC for approval.			
Activity 8.3: In support of and throughout the process above, STP/project/TMC to provide technical backstopping (e.g. consultancy services on design, costing or supervision, etc) as necessary to enable decision-making and monitoring related to implementation by the working groups.			
Activity 8.4: Support a number of demonstration projects			
Output 9: Municipal level EDF projects approved and implemented	• Numbers and type of municipal-level projects selected and approved • Meetings with "project groups", numbers • Numbers of consultancy (and other) reports on technical backstopping • Numbers of monitoring reports • EDF Funds disbursed • Numbers of completion reports • Indicators for individual projects est. to show environmental improvement	• WG and PSC minutes • Meeting reports • Consultancy and other technical backstopping reports • Monitoring reports • Completion reports • Independent Evaluation Report • Financial and audit reports	*Output to immediate objective:* • Correct balance can be struck between numbers and type of Municipal-level projects and capacity to implement on an annual basis (and other project types) • Groups proposing projects will be genuinely and honestly motivated • Projects will all be developed through the working group process and have wide popular support
			Assumptions- Activities to Outputs
Activity 9.1: Assist in the preparation of the urban environmental management and development strategic framework			
Activity 9.2:Working from the action plans for that current year, STP and working groups select a			

Objectives	Verifiable Indicators	Means of Verification	Assumptions
small number of larger city-wide project proposals (perhaps made up from a number of similar small proposals) for EDF funding and implementation. Prior to PSC approval, present to MMT/TMC for approval.			
Activity 9.3: In support of and throughout the process above, STP/project/TMC to provide technical backstopping (e.g. consultancy services on design, costing or supervision, etc) as necessary to enable decision-making and monitoring by the working-groups, related to implementation.			
Output 10: Environmental Audits of selected industries, conducted and emonstration projects on CPT in industries and SMEs implemented	• Numbers of commercial interests provided with information • Numbers and types of workshops/meetings • Numbers of CPT courses and persons attending • Numbers and type of CPT projects selected and approved • Meetings with "project groups", numbers • Numbers of consultancy (and other) reports on technical backstopping • Numbers of monitoring reports • EDF Funds disbursed • Numbers of completion reports • Indicators for individual projects est. to show environmental improvement	• WG and PSC minutes • Meeting and workshop reports • Course reports • Consultancy and other technical backstopping reports • Monitoring reports • Completion reports • Independent Evaluation Report • Financial and audit reports	*Output to immediate objective:* • Correct balance can be struck between numbers and type of "commercially-related" projects and capacity to implement on an annual basis (and other project types) • TMC willing and able to enforce by laws relating to the environment as additional encouragement to commercial interests • Groups proposing projects will be genuinely and honestly motivated
			Assumptions- Activities to Outputs
Activity 10.1:Provide information to industries, enterprises and the informal sector in conjunction with CPC Tanzania, facilitating/enabling CPCT workshops and training courses in Tanga Municipality. Encourage such "commercial" involvement in working groups, and inclusion of CPT projects in strategies and action plans.			• Commercial bodies will be willing to consider and take up Cleaner Production methodologies
Activity 10.2:Working from the action plans for that current year, STP and working groups select CPT and "commercially-related" environmental			• Suitable projects will form part of the APs

Objectives	Verifiable Indicators	Means of Verification	Assumptions
project proposals for EDF funding and implementation. Present to PSC for approval.			
Activity 10.3: In support of and throughout the process above, STP/project/TMC to provide technical backstopping (e.g. consultancy services on design, costing or supervision, etc) as necessary to enable decision-making and monitoring by the working groups related to implementation.			
Activity 10.4:Assist and advise industries in obtaining larger-scale support for CPT measures. Also assist TMC in containment/mitigation measures for significant environmental impacts.	• Numbers of sources approached, and providing funding for CPT • Numbers and types of containment/ mitigation measures	• Progress reports • Project files	• There is a willingness to address some of the older and larger environmental impacts (i.e to "wipe the slate clean")

Annex 4: Tanga Bye-laws

Annex 4: Tanga Bye-laws made under Local Government (Urban Authorities) Act, 1982

By-Law	Minister App	Remarks
1. Tanga Municipal Council (urban agriculture) By-law 1992	26.03.92	The Bye-laws provide a legal framework for those practising agriculture within the jurisdiction area of Tanga Municipality. According to the Bye-laws, each farmer is required to cultivate and take care of at least 1 hectare, out of which 2/3 should be used for food crops and the remaining 1/3 for cash crops, to coconut, cashew nut, etc.
2. Tanga Municipal Council (environment) By-law 1999. Made under section 80 (1)	15.09.99	The Bye-laws require each land-rights holders to plant and take care of a number of trees prescribed in the by-law or as shall be directed by the Council.
3. Tanga Municipal Council (hawking and street trading) (amendment) Bye-laws 1999 Made under section 6 (1) (i)	15.09.99	This is an amendment of a principal by-law on hawking and street trading of 1986 which aims at regulating hawking and street trading in the municipality. The amendment introduces new business rates.
4. Tanga Municipal Council (rearing of domestic animals) Bye-laws 1999 Made under section 80 (1)	15.09.99	For the sake of keeping the municipality clean, preventing destruction of trees or other properties, the By-law prohibits domestic animals to roam around. Defaulters are liable to a fine of TZS. 20,000 or more depending on destruction caused.
5. Tanga Municipal Council (Establishment of Municipal Health Fund) Bye-laws 1999	15.09.99	An instrument for the establishment of Health Fund to facilitate equal opportunity for health services to all residents of the municipality
6. Tanga Municipal Council (Property Rate) (Amendments) Bye-laws, 1999 Made under section 13 and 15 (1) (c)	15.09.99	According to this instrument all property owners in the jurisdiction area of the municipality is supposed to pay property tax. Those whose property value is included in the valuation roll of 1998 are supposed to pay 0.2 % of the rateable value as property tax, while those whose property is not included pay a flat rate as specified in the Bye-laws. Those with an underdeveloped/partially developed residential plot pay service charge as specified in the By-law
7. The Tanga Municipal Council (Produce Markets) Bye-laws, 1999 Made under section 6 and 13	15.09.99	It stipulates obligations of market stall-holders and commodity sellers to the Council, as well as where, under what conditions and within what hours of the day selling should be conducted.
8. The Tanga Municipal Council (Municipal Service Levy) Bye-laws, 1999 Made under section 6 and 15	15.09.99	An instrument to enable the Tanga Municipal Council to levy and collect, in each year of income, from every business enterprise or agency within its area of jurisdiction 0.3 % of the turn over in respect of all activities including manufacturing, processing, agricultural production, distribution of goods, rendering of services, commerce, importation of goods or services.
9. The Tanga Municipal Council (Development Levy) (Amendments) Bye-laws, 1999 Made under section 6 and 13	15.09.99	This is an amendment to an earlier By-law that requires every resident who is supposed to pay levy to do so according to the rates specified in the Bye-laws as follows: peasant or low income earner (rate payable TZS. 2,500) per annum; employees (rate payable 10% of one month basic salary per year), holder of big business licence whose assessment value is TZS. 15,000 and above (rate payable 15 % of assessment value), small businessman whose licence assessment is below TZS. 15,000 (rate payable TZS. 2,500) per annum
10. Tanga Municipal Council (Primary Education Fees) (Amendments) Bye-laws, 1999	15.09.99	This is an amendment of Tanga Municipal Council (Primary Education Fees) (Amendments) Bye-laws, 1989 to enable the Council to levy TZS. 2,000 as primary education fee instead of the previous TZS. 200.
11. The Tanga Municipal Council (Fees and Charges) (Amendments) Bye-laws, 1999 Made under section 6 (1) (I)	15.09.99	Under this Bye-laws the Tanga Municipal Council is empowered to levy and collect fees and charges in respect of various services, permits and licence issued to residents, land developers and businesses. The payable rates are indicated in the Bye-laws.

All but one environmental bye-law listed above were amended in 1999 as part of a batch as part of the LGRP.

Annex 5: Stakeholder Analysis

Annex 5: Stakeholder Analysis

1. Central Government

- Vice-President's Office: This office is responsible for policy-making and coordination of environmental policy and implementation.

- Ministry of Natural Resources and Tourism : MNRT is responsible for the sustainable development of natural resources through its divisions of Forestry, Fisheries, Wildlife, and Beekeeping. The Municipal NRT Department looks to this ministry for policy direction.

- Ministry of Energy and Minerals : It is responsible for energy and mineral resources. Under it is the Tanzania Electricity Supply Company (TANESCO), responsible for electric power generation and distribution. TANESCO representatives in Tanga participate in Working Groups, because the organization is viewed as an important stakeholder in environmental issues such as unplanned settlements and new markets.

- Ministry of Water : The Tanga Urban Water Supply and Sewerage Authority, along with other municipal water boards, was established under this ministry. Representatives from the Tanga Water Authority participate in Working Groups, because the authority is viewed as an important stakeholder in environmental issues such as unplanned settlements and new markets. Further to this are bodies responsible for water quality in Tanzania, including the Central Water Board and the Tanzania Bureau of Standards.

- Ministry of Lands and Human Settlements (MLHS): This ministry has responsibility for urban strategic planning and village land use planning, although these responsibilities have been delegated to the local authorities. Nonetheless, MLHS must approve any strategic urban development plan that Tanga produces. The ministry's roles and policies related to environmental planning and management are outlined in the recent *National Human Settlements Development Policy* (January 2000).

- Ministry of Regional Administration and Local Government (MRALG): MRALG is the parent ministry for all municipal authorities. It has responsibility for such things are forwarding municipal budgets, and seeing that municipalities have the capacity to carry out strategic urban planning. MRALG is described more thoroughly in Section 2.3 of this document.

- Urban Authorities Support Unit (UASU): UASU was created as part of a UNDP project *inter alia* aimed at expanding the Sustainable Cities Programme from Dar es Salaam to other municipalities. UASU is described more thoroughly in Section 2.3 of this document.

2. Other Central Bodies

- National Environmental Management Council (NEMC) : NEMC is under the Vice-President's Office. The council deals mostly with industrial pollution at the national level, and in Dar es Salaam. Government support is limited to salaries; Sida provides 60-80% of NEMC's budget.

- University College of Lands and Architectural Studies (UCLAS): UCLAS faculty members have been used as consultants on the Sustainable Cities Programme, including in Tanga, and in strategic urban planning and participatory land use planning elsewhere in Tanzania.

- Cleaner Production Centre of Tanzania: The Centre is meant to reduce industrial pollution by providing industries and environmental amangement agencies with information on cleaner technologies and techniques. enterprises. The Centre is under the Tanzania Industrial Research and Development Organization, and is part of the UNEP/UNIDO National Cleaner Production Centres Project.

3. National Projects (without a presence in Tanga)

- Institutional and Legal Framework for Environmental Management Project : The Vice-President's Office, with World Bank support, launched this project to draft legislation for institutional reforms to underpin improved environmental management. The project could eventually lead to changes in the central structures described above, and in structures at the regional, district, and municipal levels.

The following projects and programs are only stakeholders in the sense that they are a potential source of ideas and experience about decentralized participatory planning, and integrating donor project assistance into the planning, budgeting, and administration of local authorities.

- Finnida Rural Integrated Project Support*:* The project is being implemented in eleven districts in Lindi and Mtwara. It is in the field of natural resource management and the environment

- DGIS District Rural Development Programme: The Dutch are implementing this environmental program in Kagera, Shinyanga, and Arusha Regions.

- Irish Aid District Development Programmes: These are being implemented in four districts.

- DFID Poverty Reduction in Partnership with Local Government: These municipal projects come out of a much larger worldwide program by DFID.

- Sida Land Management Programmes (LAMP): This program implemented in four districts. Its real relevance for the Danida support project in Tanga lies in the way funds are being channeled through the district administrations.

4. Donor-assisted Projects in Tanga

- Urban Sector Rehabilitation Project : This World Bank project has financed the rehabilitation of some thirteen kilometers of roads and drains, three kilometers of main storm drains, solid waste management equipment (skips, skip pads, and skip loaders, and dumping ground), sanitation management (cess pool emptiers and about 32 public latrines), and capacity building for management. The latter will consist of sending staff in various departments on training courses, and providing equipment such as computers. Much of the emphasis in this will be on the revenue department, as increasing tax collection is key to sustaining the infrastructure. KfW has through this program provided assistance to the Tanga Urban Water Supply and Sewerage Authority to expand its system. Tanga will receive about USD11.7 million under USRP in the 1997-2002 phase. The municipality's participation in the next phase has not yet been planned. It could conceivably include a community infrastructure program, to support civil works undertaken by CBOs.

- Tanga Coastal Zone Conservation and Development Program : The program is financed by Irish Aid and implemented by the International Union for the Conservation of Nature (IUCN), an international NGO. It works only in coastal villages (including some in Tanga Municipality) and on selected issues. One of its big successes has been in reef management, teaching fishers to monitor and protect reef health. It also tried to do an environmental education through the primary schools, which one expert observer assessed as having "zero impact." The Danida support project

can potentially learn lessons from this failure before embarking on its own environmental awareness campaign.

- Tanga Dairy Development Programme : This project is worth mention simply as a successful local project. It aims to build the private dairy sector in Tanga. Its achievements include promoting the formation of Tanga Fresh, a successful milk processing factory, establishing a dairy resettlement scheme on a former sisal estate, and building up the dairy industry from virtually nothing to 1,400 farmers with 4,500 dairy cows.

- Health Projects : Bombo regional hospital has numerous central government projects, including one for Aids Control, and projects financed by JICA and GTZ.

5. Central Government Institutions in Tanga

- Regional Administration Secretariat (RAS): These regional secretariats are part of the MRALG. They were created in 1997, when the powerful regional administrations were disbanded. RAS includes an Economic Development Technical Staff Officer responsible for environmental affairs. A Regional Consultative Committee provides a forum for intersectoral coordination.

- Vector Control Training Institute: The institute is under the Ministry of Health. It offers long and short courses in the prevention and control of vectors to health officers, carries out research, and provides advice on vector control to institutions and organizations, including Tanga municipality. Its Principal has played a significant role in the Sustainable Tanga Programme by preparing a paper for the City Consultation and serving on a Working Group. It has been cooperating with the Danish Bilharzia Laboratory for more than ten years.

- Environmental Health Training Institute: This is similar to the Vector Control Institute (in fact, even Tanga residents confuse the two) except working in the area of environmental health more generally.

- Bombo Hospital : The hospital is the base for several donor-assisted and central government programs, as noted above. However, it is also an environmental stakeholder in being a source of pollution. The hospital discharges contaminated wastes and sewage into storm drains and streams

- Small Industries Development Organization (SIDO): Participants in a planning workshop for the Danida support project identified this parastatal as one that should participate in the Working Group on the deteriorating economy.

- National Social Security Fund (NSSF) and Parastatal Pension Fund (PPF): The same workshop identified these two pension funds as stakeholders in issues on new markets and bus stand expansion.

- Tanzania Electric Supply Company (TANESCO): TANESCO is under the Ministry of Energy and Minerals. Representatives in Tanga participate in Working Groups, because the organization is viewed as an important stakeholder in environmental issues such as unplanned settlements and new markets.

- Tanzania Telecommunications Company: Like TANESCO, representatives from the telephone company have been asked to participate in Working Groups on new markets and unplanned settlements.

- Tanzania Housing Corporation: This parastatal owns real estate in the Tanga. It has been asked by the above-mentioned workshop to participate in working groups such as the one on unplanned settlements.

- Police: The above planning workshop also recommended that the police be asked to participate in Working Groups on bus stand expansion, environmental sanitation, and non-motorized transport.

- Tanga Urban Water Supply and Sewerage Authority: At present, this authority, along with other municipal water boards, is under the Ministry of Water, but eventually the boards are supposed to report to municipalities. Representatives from the Tanga Water Authority participate in Working Groups, on unplanned settlements, liquid waste, and new markets.

- Tanzania Railways Corporation: Although the railway no longer operates to Tanga, participants in the above mentioned workshop thought TRC representatives should participate in the Working Groups on bus stand expansion.

- Cooperative College: This institution is in Moshi, Kilimanjaro, but accessible from Tanga. Founded in the 1960s to provide training to the cooperative movement, it continues to provide training in basic business skills to all kinds of groups. In Tanga, UBISO has received training from the Cooperative College.

6. Non-Governmental and Community-Based Organisations in Tanga

The Environmental Support Programme Document gives more information on national and international NGOs, particularly in the environmental sector, working in Tanzania. Reproduced overleaf is the list of NGOs (including professional associations and private sector associations) given in the Program Identification Support Document. A few additional organisations, contacted in the course of preparing this project document, have been added.
The organisations marked with (*) send representatives to Working Groups.

Name of Organisation	Sector/work
*4H	youth, environment, productive activities
Center for Informal Sector Promotion	informal sector training
Tanga Women's Group:	beautify municipal park(s)
Tumaini Women's Group:	tree nurseries and planting
Mkwakwani Secondary School Environmental Conservation Group	environmental education, nurseries, tree planting
*Tumaini Women's Group (Masawe):	nursery, products from trees
ANAREF (Anglo African Relief Foundation)	child education
TADDO (Tanga Diocese Development Office)	water
Netherlands Tanga Simavi Project	primary education, health
SWAAT	Aids
Sigi River Conservation Society	environment
PRIDE (Promotion of Rural Initiatives and Development)	urban credit
BAKWATA	Islamic
Tanga Aids Working Group	Aids
MTANDO (Tanga NGO cluster)	Aids
CHAMAWITA	homeless children
TENDWA (Tanga Environment and Development Watch)	environment
Community Empowerment, Water, and Sanitation	water
TEWOREC (Tanga Elderly Women Resources Center)	elderly
Tanga Women Development Group	women
African Orphans Aid Appeal	orphans
POVATA	village development
*Poverty Africa	credit
Lions Club of Tanga	service
Rotary Club of Tanga	service
Tanzania Red Cross Society	charitable
Maawal Islam Association	charitable
Al-Haramain Islamic Foundation, Tanzania	charitable
CREW	women's credit
Neem Botanical Research Association	promote research and products from the Neem tree
Tanga Teenage Reproductive Group	youth education
Chama cha Waalbino Tanzania	albinos
Ansar Muslim Youth Center	youth
Tanga Social Workers' Association	professional
Tanga Home Economics Association	professional
Tanzania Registered Nurse Association	professional
Chama Cha Waganga Wakuu	professional--traditional healers
Tanga Muslim Teachers Associations	professional
*Tanga Chamber of Commerce, Industry, and Agriculture (TCCIA)	professional
*UBISO	Ngamiadi market sellers association
*WABIMSO	Mgandini market sellers association
*MUWATA	minibus (daladala) association

7. Industries

The following industries and enterprises merit special attention as stakeholders:

- Tanga Cement Company: This company is the only major source of air pollution, and the problem has decreased since it upgraded its equipment in 1998.

- Industries located in Gofu Industrial Area: The industries here discharge their effluent untreated into storm drains and streams which eventually carry it to the ocean at Sahare.

- Tanga Limestone Factory: The Working Group on Environmental Awareness identified this as a health problem for the community in Mzizima Ward. It presents an occupational health hazard for its workers, most of whom are women.

- Decortation factories on sisal estates: When dumped in streams, the effluent from decortation robs the water of oxygen, which kills marine life. The effluent also contains heavy metals An example of this is the Ralli Estates, which have not maintained the factory effluent treatment system that discharges into streams downstream of the Mabayani Reservoir. Samples of the water in 1996 revealed dangerous levels of heavy metal.

- Shellcraft/NETEC: Shellcraft, a manufacturer and distributor of agricultural inputs, has formed a company (NETEC) in association with several foreign firms to recycle organic waste as fertilizer and energy (biogas). One source of waste would be the decortation effluent, and the other from the municipal solid waste. The mayor and municipal director have discussed the project with the company manager and have applied for UASU funds to do a feasibility study. The latter would require something on the order to USD14,000-20,000 and four months to complete.

The Program Identification Support Document lists the following industries on the table overleaf as operating. “Reduced” means that operations are only a fraction of capacity or former levels.

Industry	Product
Tanga Cement Co., Ltd.	cement
Masco Saw Mills	wood products
Sabuni Industries Ltd.	detergents
Quality Plastics	plastic products
Tip Soap Industries Ltd.	laundry soap (reduced)
Africtex ltd.	textiles (reduced)
PPTL Ltd.	sacks
Tanga Fresh Ltd.	dairy
Kilimanjaro Blankets Corp. Ltd.	blankets (reduced)
Pallet Manufacturers Ltd.	wooden pallets
A-One Products and Bottlers	plastic products
Tanganyika Industrial Corp.	sisal ropes and twine (reduced)
International Food Packers	tea packers
Khanbhai Industries Ltd.	pharmaceuticals, cosmetics
Burhan Saw Mills	wood products
Sunlux Industries	pharmaceuticals
Tanga Limestone Factory	lime products
SAS Engineering	engineering works
Jenus Ltd	pharmaceuticals, cosmetics
Anjari Soda Factory	soft drinks
G. Taibjee Ltd.	soft drinks

Please also refer for further information to the following documentation for further information on many stakeholders: Program Support Identification Report: Background Information on Tanga Municipality, January 2000, Danida.; Sustainable Mwanza Programme (Danida Support Project): Final Project Document, March 2000, Danida; Programme Document, Environmental Support Programme, Tanzania, Danida March 2000; Environmental Profile of Tanga, TMC, RDE and UCLAS October 2000.

Annex 6: Health Impact Assessment

Annex 6: Health Impact Assessment

1. General considerations

Among the health problems of Tanga several of the city's most common communicable diseases (malaria, hookworm, lymphatic filariasis, typhoid and diarrhoea caused by bacterial infections) are directly related to inadequate drainage and sewerage and badly managed sanitary facilities. It is most likely that the sections of the Sustainable Tanga Programme (STP) that successfully deal with drainage and sewerage problems, solid waste collection and water pollution and similar aspects of environmental management after a period will result in a positive impact on the inhabitants health status.

The main problem in environmental impact assessment are the large number of confounding factors that specifically makes it difficult to quantify the short-term effects. By combining direct and indirect approaches for quantifying the long-term health impact of STP, the importance of the confounding factors will be minimised and it is the hope that the experience achieved in this programme can be used in other similar settings and programmes.

During the Japanese financed Tanga Malaria Control Programme (1988-95), the Tanga Municipal Council (TMC) has previously worked with various aspects of malaria control and a number of their staff members can be considered as well trained in mosquito taxonomy and quite knowledgeable about mosquito ecology. These staff members can therefore support the assessment of STPs impact on transmission of malaria and lymphatic filariasis. Several of these members are still employed under TMC, but are presently occupied with other non-health related work activities.

2. The Tanga Malaria Control Programme (1988-95)

In 1988, a malaria control programme, which was financed by the Japanese International Co-operation Agency (JICA), was initiated in Tanzania and the programme covered parts of Dar-es-Salaam and a part of Tanga. The control measures focused primarily on the use of insecticide, which was purchased from the Japanese chemical company Sumitomo. The insecticides were applied in indoor spraying, outdoor ultra-low volume space spraying and used as larvicide in Anopheline breeding sites. A part of the programmes focused on school based health education, on distribution of impregnated bed-nets and some environmental management. The nets were in some places given as free donations and in other areas a subsidized price was charged. The overall project budget for Dar-es-Salaam and Tanga was approximately 3 mill. USD/year over the six-year period. According to the final 1995 report from the Ministry of Health, Tanzania the programme had only a limited effect on the mosquito populations and overall malaria prevalence.

Aside from being based on extremely costly, non-sustainable control methods which demanded expensive and sensitive spraying devices and a considerable input of manpower the main reasons for the failure of the programme was:

- After the first rounds of indoor house spraying many inhabitants refused to have their house sprayed again. The main reasons for the refusal was the inconvenience (it was necessary to cover furniture, food stuff etc.), the residual odour from the spray, and the fact that the spraying had no or only very limited effect on non-malaria vector mosquitoes – such as *Culex* mosquitoes which were perceived by the inhabitants as a major nuisance

- The programme never monitored the coverage of the bed-net distribution, but according to a rapid assessment in one village which received impregnated nets as a free donation in 1991, about 50% of these nets were missing one year after distribution (D. Meyrowitsch). Only little data is available regarding the frequency of yearly re-impregnation

3. Mosquitoes as a nuisance

The experience from the Japanese supported Malaria Control Programme clearly demonstrates that environmental management cannot solely focus on control of *Anopheles* mosquitoes, but has to present a more open mind to the "mosquito problem" as such. Otherwise it is unlikely that a programme will be able to achieve a satisfactory level of community participation. When the inhabitants are still bothered by mosquito bites they do not tend to distinguish between malaria and non-malaria vectors, but are naturally more worried about the many bites that appear as a major nuisance and prevent them from sleeping (D. Charlwood, personal communication).

4. Main mosquito transmitted infections in Tanga

4.1 Malaria (*Plasmodium falciparum*)

Regardless of socio-economic status most inhabitants of Tanga see malaria as the most important health problem and the district is notorious for the extremely high intensity of malaria transmission. Although a certain proportion of the human population is immune or semi-immune to the infection, the disease still places a major financial burden on many families and causes high infant mortality in the poorest and least educated part of the population.

For the record - Tanga Region has an unofficial world record in malaria transmission and 100-150 mosquito bites/night/person are commonly observed in rural areas of Tanga Region (C. Curtis, pers. comm.). During peak transmission season 20-60% of the primary school-children in Tanga are found to be infected (M. Yamakawa, pers. comm.). There is transmission in both rural, semi-urban and some urban areas of Tanga, but the highest prevalences are found in the rural communities and the lowest in oldest part of town.

The pre-dominant main mosquito vectors are *Anopheles funestus* and *Anopheles gambiae* and both species have a preference for breeding in clean water-bodies with relatively high oxygen concentration. In Tanga, a large number of *Anopheles* mosquitoes breed in flooded areas formed during the rainy seasons. *Anopheles merus*, which breed in brackish water in the mangrove zones, also plays a role as vector for malaria, but is assumed being of only minor importance. The distribution of *Anopheles merus* in Tanga District is not well mapped.

The peak in the *Anopheles* population in March-June ("long rains") and again in October-November ("short rains") coincides closely with high prevalences of clinical malaria during the same periods. In the intermediate dry periods there is in general only little transmission of malaria, but in some areas where the water table is high and flooded areas tend to persist long into the dry period, the malaria transmission does not follow the seasonal cycle.

The strain of falciparum-malaria in Tanga is multiple-drug resistant and a considerable proportion of the average household income is spent on diagnostics, treatment and complicated disease management during the peak transmission season. There is a good public understanding of the malaria parasite being transmitted by mosquitoes, but in contrast to for example many cultures in South East Asia there is not a long tradition for use of bed-nets in the coastal areas of Tanzania. Bed-nets are most commonly used in the urban areas of Tanga town, whereas they are much less common in rural areas of the district. When interviewed the most common reasons for not using a bed-net are the high costs and the feeling of increased body temperature when sleeping under a net (N. Kolstrup, pers. comm.). The cost of a non-impregnated large bed-net in Tanga town is about USD6 (2000).

4.2 Lymphatic filariasis (*Wuchereria bancrofti*)

In contrast to malaria, the importance of lymphatic filariasis as a major public health problem is still not well recognized and many aspects of the infection, disease and lifecycle are not widely known. The following chapter will give a brief introduction to the infection, disease and control.

Lymphatic filariasis (LF) resulting from infection with the parasitic roundworm *Wuchereria bancrofti* is a widespread and debilitating disease in many parts of Africa, Asia, the Pacific, South America and the Caribbean. More than 120 million cases worldwide are estimated being infected (WHO). In sub-Saharan Africa there are about 40 million infected individuals or about one-third of the total number of individuals infected in the world. The World Bank has recently declared LF the second most common cause of immobility worldwide.

The adult male and female worms (maximal size 100 x 0.25 mm) are located in the lymphatics of the human host, where sexual reproduction takes place. The female worms produce large numbers of larvae, called microfilariae (mf) (maximal size 320 x 10 µm) which circulate in the bloodstream. When a female mosquito takes a blood meal, mf are ingested with the blood and each mf undergoes a development to the infective stage. The development in the mosquito takes a minimum of 10 days. During a second blood meal, the infective filarial larvae leave the mosquito and can penetrate the skin of man (the final host). The larvae migrate to the lymphatics, where they develop to the adult worms. The pre-patent period (*i.e.* from infection of man to appearance of adult worm) is 8-10 months and the adult worms live for 3-5 years.

The chronic clinical manifestations most commonly occur as hydrocele (accumulation of body fluid in the scrotum) and leg lymphoedema/leg elephantiasis. Large hydrocele and limb elephantiasis have a devastating effect on individuals suffering from that because of the concomitant physical ability and reduced work capacity and furthermore many patients face severe social and psychological problems.

The mosquito vectors are *Culex quinquefaciatus*, *Anopheles funestus* and *Anopheles gambiae. Culex* mosquitoes have a preference for breeding in polluted water bodies with low oxygen concentration and are seen in large numbers in wet pit latrines, cess pits and smaller polluted water bodies. As previously mentioned, *Anopheles* mosquitoes breed in clean water bodies. In urban and semi-urban areas of Tanga, *Culex* mosquitoes are the predominant vector, whereas *Anopheles* are co-responsible for a part of the transmission in rural areas of Tanga District – especially in poor, rural communities where only few wet pit latrines have been installed.

The prevalence of infections (based on the presence of antigens to adult worms and detection of mf in blood) have been assessed in both semi-urban and rural communities of Tanga, and the results indicate that about 50% of the total population > 1 year is infected. About half of the infected individuals are carriers of mf in the peripheral blood and therefore contribute to the transmission. There are no valid data on the prevalences of infections in the urban areas of Tanga. In the communities, the prevalence of infection is low in the youngest age groups (1-5 years), and from thereon, the prevalence increases steeply until the age of 20-40 years, whereafter it levels out with age or increases only slightly.

In rural and semi-urban areas of Tanga District, hydrocele is the most common clinical manifestation (prevalence range 30-40% in males ≥ 20 years) followed by leg elephantiasis (prevalence rate 2-5% in individuals ≥ 20 years). Only few children present with chronic disease, but the prevalence of hydrocele in males increases steeply with age and reaches 50-80% in the oldest age groups. There are no available data on prevalences of chronic disease from the urban areas of Tanga.

In contrast to malaria, infections with *W. bancrofti* can persist for many years when the individuals are continuously exposed to new infections. An environmental control programme with the objective of not just reducing the incidence of new infections, but aiming at an elimination of LF as a public health problem therefore has to sustain for five years or more in order to exceed the life span of the adult worms.

Management of chronic disease mainly focuses on surgical operation of hydroceles (hydroceletomy), but many affected individuals cannot afford the operation and are therefore forced to live with the disease. In recent years improved personal hygiene (washing of legs with water and soap) have shown to have some impact on the progression of leg lymphoedema/elephantiasis.

Transmission of lymphatic filariasis can be reduced by decreasing the mf prevalence and intensity by mass chemotherapy offered to the human population and/or by reducing the mosquito vector population. The Ministry of Health, Tanzania is in the planning phase of a large-scale mass chemotherapy programme for control of lymphatic filariasis, which will use a combination of the two drugs ivermectin and albendazole. The drugs will be offered once annually to all inhabitants as a free service, and the programme is planned to cover all endemic areas of Tanzania. The drug combination will unfortunately have little or no effect on the adult worms, but the drugs are effective in suppressing mf in infected individuals and will probably reduce transmission in the endemic areas. The success of this programme primarily depends on the sustainability of the drug distribution and the long-term compliance to treatment. To achieve a long-term effect on transmission it is crucial that a high proportion (probably > 85%) of the inhabitants agrees to take the annual dose of medicine for at least 5-8 years. The details and time schedule of this programme have not yet been finalized, but when the programme eventually will be implemented, a sustainable mosquito control component within STP will act as a highly important additive asset on the road towards elimination of LF in Tanga. In the absence of a mass chemotherapy programme, the advantages of an effective *Culex* control component within STP will still result in a reduced incidence of new infections and furthermore reduce the importance of *Culex* bites as a general nuisance and thereby achieve a higher level of community participation and general public acceptance.

5. Proposed mosquito control measures in STP

5.1 Improved drainage. Target vector: *Anopheles* mosquitoes

The lack of efficient storm flood drainage combined with a high water table results in flooding of many urban, semi-urban and rural areas covered by STP. The flooding does most commonly occur during the rainy seasons and these sites facilitate breeding of *Anopheles* mosquitoes in large numbers. The raised water table also results in flooding of many latrines, which contributes to the spread of hookworms, typhoid and other human, communicable diseases. Since drainage work (construction, clearing and repairs of existing facilities) and improved storm flood drains most likely will be a key issue in STP there is an obvious possibility of optimizing the improvements to work as effective control measures of the *Anopheles* population. It is important to emphazise that this section of the intervention also has to involve land filling with focus on small to medium sized depressions where water accumulates for a period longer than one week.

It is necessary to identify the flooded areas and depressions and classify them with regard to their importance as *Anopheles* breeding sites. The department of Health and Social Welfare under TMC has performed surveys in the early 1990s where some of these sites were identified and mapped. The last years of drainage pipe renovation work in Tanga carried out by TMC and Konoike, Japan, as well as the unusual heavy post-El Niño rains in 1998 may have influenced the previous recorded pattern of *Anopheles* breeding. Therefore, the data from these surveys have to be reviewed and their present relevance has to be scrutinized, but regardless of their quality they form a base for further analysis of the geographical distribution of breeding sites. New surveys are needed in order to get more valid data on the most important target areas.

Individuals trained in surveying the water-bodies and with practical knowledge of mosquito identification and mosquito ecology are still employed under TMC and can provide valuable assistance in surveying and mapping the breeding sites during this part of the base-line survey. When the drainage work is being planned, the same staff members can assist the engineers under TMC in selecting the

most relevant sites. It is also advisable that the staff members with knowledge of mosquito ecology occasionally visit the work sites and express their opinions on the quality of the work.

The same staff members can participate in the assessment of the long-term effect on the mosquito population (see 6.1). Since the Geographical Information System (GIS) will be used for other sections of the STP, it would be obvious to use GIS for a detailed mapping of the breeding sites and for supporting the later follow-up surveys on mosquito populations.

5.2 Polystyrene beads applied to wet pit latrines. Target vector: *Culex* mosquitoes

As previously mentioned there are major advantages when combining control of *Anopheles* mosquitoes with control of *Culex* mosquitoes. The programme can expect a much higher degree of community participation and general public acceptance when approaching the "mosquito problem" as a primarily nuisance issue. There is furthermore a promising potential for dramatic reductions in the transmission of lymphatic filariasis.

Studies in India, Zimbabwe and Tanzania have shown that polystyrene beads (PB) placed in wet pit latrines form a highly effective and long lasting barrier against *Culex* mosquito breeding. A measured amount of expanded PB are simply dropped in the latrine and will spread on the water surface and form a layer of beads which perfectly fits the surface. TMC has some experience with the use of PB in a few households located in Ngamiani, Tanga. This pilot project was carried out in 1992, but it has not been possible to gather any details on the procedures and how the inhabitants received the project.

Apart from making it difficult for mosquito larvae to breathe, the layers of PB furthermore prevent emergence of adults from pupae, and the layers present a dry surface which prevents egg laying from free flying mosquitoes. Besides acting as a simple, cost-effective and sustainable *Culex* control measure, the PB also suppress the latrine odour – a positive "side effect" which was much appreciated by users in Dar-es-Salaam.

Unexpanded PB is produced by the petro-chemical industry and each bead, which measures 2-4 mm, contains a proportion of pentane in a solid solution. When the PB is heated to about 100º C, the polystyrene material softens, and the pentane rapidly expands the beads by up to 30 times in volume. It is important to emphasize that the process does not involve chloro-fluorocarbons, which has a damaging effect on the ozone layer of the earth.

When smaller amounts of PB are needed, it is possible to expand the beads in boiling water in a cooking pot over a wood or charcoal fire. When used in an urban area on a large-scale *Culex* control project, it would be more efficient to set up a permanent cooking facility and then transfer the expanded beads to drums which can be moved by trucks to the respective households. The administration of TMC can suggest a design for a feasible and cost-effective procedure for expanding larger amounts of PB.

In the latrine, a layer of PB immediately reforms after faeces or other objects have dropped through the layer. If a pit latrine becomes dry and the PB is buried under faeces, the high buoyancy of the beads will normally result in a reformation of the layer on the surface when water returns to the latrine. However, there are reports of PB which did not emerge completely after the water returned, since a proportion of the beads were covered by hard layers of substance and the beads could not penetrate this layer. When wet pit latrines are flooded, the PB will also be swept away, but this most often happens in out-door sites where the water is not confined by four walls. Due to the occasional loss of PB it is therefore advisable to visit the wet pit latrines once a year (shortly after the long rainy season has started) and add extra PB in the latrines where the layer does not cover completely. Experience from Dar-es-Salaam indicates that the layer in many sites persist for four years or more without any extra addition of beads.

In Zanzibar, Tanzania a 2-cm-thick layer of 2-mm beads was sufficient to eliminate mosquito breeding (C. Curtis). Thus, 20 litres of expanded PB are needed per m^2 of water surface or 30 litres for a typical wet pit latrine. The cost of purchase of 30 litres expanded beads is USD2.5 (1991). Expansion of 240 litres of PB will require 0.05 m^3 of firewood and the expanded beads can thus cover eight average-sized wet pit latrines.

With regard to community participation and general awareness of mosquito control, the use of PB has some obvious advantages:

- Users of the wet pit latrine will immediately after application notice the effect as a cease in the emergence of mosquitoes from the pit

- The PB are clearly visible for the users of the latrine and if the layer is uncomplete, action can be taken in order to require more beads from TMC

- For many users the reduced odour will be an additional incentive for acquiring and monitoring the PB

6. Health impact appraisal of STP

The health appraisal of STP will include the following three effect parameters:

- Direct effect on mosquito populations
- Effect on prevalence of malaria and LF in primary school-children
- Effect on incoming health records from hospitals, health centres and dispensaries

6.1 Monitoring the direct effect on mosquito populations

In order to assess the effect of the environmental measures (drainage, land filling and PB in wet pit latrines) on the population of *Anopheles* and *Culex* mosquitoes, sampling of mosquitoes will be carried out once a week in four selected locations covered by STP. In addition, sampling in four other locations not covered by STP, but with similar landscape and breeding site characteristics, as the latter four locations will provide control data for a comparative analysis of the impact.

Mosquitoes will be sampled by using eight CDC light traps driven by rechargeable batteries. CDC light traps attract mosquitoes by a small light bulb and the mosquitoes are sucked into the trap by a battery-driven fan where they are caught in a net bag. The trap is placed next to the bed where a person sleeping under a bed-net will act as bait. The method is a standard procedure for recording theoretical number of mosquito bites and mapping of species profiles. The trap will be switched on at sunset and turned off at sunrise by the inhabitants of the household. The contents of the trap can then be collected by a staff member from TMC and brought to the laboratory at TMC where the sampled mosquitoes will be identified and the number of each species will be recorded. No microscope is necessary for the taxonomic identification. Depending on the number of sampled mosquitoes, the identification and recording procedure for the total catch from all eight traps will take one person 1-2 hours once a week. The data will be entered in a simple table and can later be entered in an Excel spread-sheet.

6.2 Monitoring prevalence of malaria and LF in school-children

The traditional method for detecting infections with malaria and LF is based on the sampling of blood slides which are prepared in the field and then brought back to the laboratory where they are stained and the number of parasites can be quantified by microscope readings. In LF this methodology is furthermore complicated by a nocturnal periodicity of mf larvae in the human peripheral blood system which means that sampling has to be carried out between 9 p.m. and 2 a.m.

Recently field applicable assays made to detect antigens to *P. falciparum* and *W. bancrofti* parasites have been released and these products are produced and sold by the Australian company Amrad under the product name "ICT Card". Both types of assay are based on a small card where a drop of finger prick blood (about 10 µl) is added to a sample pad, where lysis occurs and the antigen present will bind to the colloidal gold-labelled antibody on the card. When a drop of buffer is added to the sample pad, blood and labelled antibody migrate up the test strip. After 1-2 minutes, the result can be read and if the sample is positive for antigen, two pink lines will show on the card. If the sample is negative for antigen, only one pink line will show. The cost of the test is about USD1/card.

The test is highly specific and more sensitive than the conventional blood smear methods. Unlike the conventional LF screening method for mf, the ICT test for LF can be performed with blood collected during the day or night. The assays have already been tested in the field by staff from Bombo Field Station, National Institute for Medical Research (NIMR), Tanga, and have shown to be fast and reliable. According to personal experience a laboratory assistant can carry out the test after only one hour of training (D. Meyrowitsch).

It is proposed that an annual survey for malaria and LF is carried out among primary school-children in eight selected schools in Tanga. Four of the schools will be selected according to their proximity to the areas where improved drainage and application of PB has been implemented. Four control schools located outside the STP area will furthermore be selected for the survey. In each school, 100 children at the age from 6-9 years will be randomly selected for the test. The children who appear as antigen positive for malaria and/or LF will receive appropriate treatment according to general ethical rules.

Due to the seasonal transmission pattern of malaria, the surveys have to be performed during the major peak transmission season which occurs in April-May shortly after the commencement of the long rainy season. Prior to the initiation of the survey, it is advisable to ask NIMR entomologists from Bombo Field Station, Tanga, or Ubwari Field Station, Muheza, for their opinion whether the malaria transmission is assumed to peak during the specific survey period. If the occurrence of the malaria peak transmission period that specific year is delayed, the assessment team from TMC has to postpone the survey. Since a recent study on the association between seasonal variation and antigen levels to *W. bancrofti* has shown that no such relationship exists (D. Meyrowitsch *et al.*), the time for initiation of the LF survey is not critical. For the convenience, the tests can be carried out at the same time as the malaria survey and the same cluster of children examined for malaria can simultaneously be screened for LF.

Prior to implementation of the proposed environmental improvements, a base line survey is performed covering all 800 school-children. Hereafter, a follow-up survey is carried out once a year in the selected schools.

The results of the surveys for malaria and LF will be recorded by staff from TMC in a simple table and later transferred to an Excess spread-sheet.

6.3 Health statistics from hospitals, clinics and health dispensaries

There are 3 hospitals, 8 health centres and 52 dispensaries in Tanga (STP, Draft Project Document). It is proposed that the TMC be given access to an overview of the incoming health records from these facilities. From the existing recording system it is most likely already possible to extrapolate statistics that can be used to assess a possible long-term health impact of STP. However, the type and method of such an evaluation has to be discussed with the Regional Medical Officer/District Medical Officer, Tanga. An official acceptance from this level in the Ministry of Health,Tanga is necessary before MCT can include these statistics in the overall assessment. The methodology and design in this section of the health impact appraisal has to be as simple as possible and could build on short monthly reports with focus on number of individuals diagnosed with diseases such as malaria, bacterial diarrhoea, typhoid and cholera. These infections are all related to low-grade sanitary facilities and flooded areas. The data will provide some valuable indicators of the long-term changes in the general health status.

7. Risks

The following factors may have a negative impact on vector intervention and the quality of the health impact assessment:

- Some of the rice farms in Tanga District facilitate breeding of *Anopheles* mosquitoes. These sites cannot be controlled by drainage, but alternative control measures have to be implemented
- In some areas of Tanga District, *Anopheles merus* may be partly responsible for malaria transmission. Since this mosquito breeds in brackish water in the mangroves, the mosquito population is difficult to control
- PB cannot be used in wet pit latrines which are emptied with regular intervals

8. Time frame

The application of PB in newly build latrines and monitoring of PB in already treated latrines should preferably continue for a 10-15 year period or longer. In order to compensate for the year-to-year variation and other confounders, the follow-up surveys on entomological and parasitic indicators necessarily have to continue for a 5-year period or longer.

9. Budget

Table 1. The costs indicated in the table are based on application of PB in 10.000 latrines, a entomological follow-up survey for 5 years, and parasitic follow-up examinations performed once a year among 800 school-children for a 5-year period. Shipment and storage of equipment are not included in the cost estimate.

Item	**Quantity**	**Budget**
Polystyrene beads	10,000 x 22.5 (=30 L)	225,000
CDC Light Traps	12 pcs x 1225	14,700
Rechargeable batteries	20 pcs x 270	5,400
Charger	2 pcs x 484	968
Bulbs	50 pcs x 6	300
ICT Ag+ Cards	1000 pcs x 5 years x 9	45,000
Lancets	1000 pcs x 5 years x 0.91	4,550
Alcohol swaps	1000 pcs x 5 years x 0.23	1,150
Disposable lab. gloves	200 pairs x 5 years x 1	1000
Treatment – malaria	400 doses x 5 years x 3	6000
Treatment – LF	400 doses x 5 years x 0.05	100
Total DKK		**304,168**