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**PROSPECTS FOR COMMUNITY PARTICIPATION IN SOLID WASTE  
MANAGEMENT: A CASE OF KOROGWE TOWN COUNCIL,  
TANGA REGION, TANZANIA**

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MANAGEMENT: A CASE OF KOROGWE TOWN COUNCIL,  
TANGA REGION, TANZANIA.**

**BY**

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**A PROJECT REPORT SUBMITTED IN PARTIAL FULFILMENT FOR THE  
REQUIREMENT OF THE DEGREE OF MASTERS IN COMMUNITY  
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This is to certify that, I have gone through this project report by **Lauwo Hilda Abel** titled **PROSPECT FOR COMMUNITY PARTICIPATION ON SOLID WASTE MANAGEMENT: A CASE OF KOROGWE TOWN COUNCIL, TANGA REGION, TANZANIA** and found in a form acceptable for the partial fulfillment of the requirement of the degree of Master of Science in Community Economic Development.

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*23<sup>rd</sup> September, 2005*

Date

**DECLARATION**

I hereby declared that this project paper is my original work and has never been submitted for the similar degree in any other university.

CANDIDATE SIGNATURE.....



Hilda Lauwo

..... 22/09/2005 .....

DATE

## **ABSTRACT**

This research project is focused on solid waste management system in Korogwe Town Council as well as drawing the relationship between Community Based Organization and community participation on solid waste management system in study area. The study describes the important factors that are likely to affect implementation of solid waste management system in Korogwe Town Council. The study was premised on the argument that the Town Council lack resources for implementation of waste management services leading to poor waste management service. Two research questions were formulated to guide the enquiry. The first research question sought to establish whether community participation in solid waste management could help to solve the problem of poor implementation of solid waste disposal services provided by Korogwe Town Council. The second research question aimed at finding answers as to whether decentralization of solid waste management to community could help to improve the solid waste services in Korogwe Town Council. The study also probed in the ways the community members could be mobilized to participate on solid waste management system. A combination of research methods was employed in data collection including: SWOT analysis of a local CBO, PRA approaches, participant observation and a questionnaire survey. The results revealed that community based organization could be an important institutions in facilitating the improvement of solid waste Management service in Korogwe Town Council. Also community participation in formulating of waste management by – laws could help to improve solid waste disposal

in the township. Effective legislation and enforcement were found to be the best ways to incorporate the CBOs in the council solid waste management system in the study area. Community members have expressed willingness to participate in solid waste disposal programs. Advantages, which community members can attain through participating in solid waste management include: income generation, environmental conservation and sanitation improvement. It was recommended that in order to attain a sustainable solid waste management system in Korogwe town council there is a need for community participation in legislation and enforcement of regulations for implementing solid waste management in the study area. Furthermore, it was recommended that both local NGOs and CBOs have important roles in facilitating community participation in solid waste management. For implementation of recommendations a project proposal for funding was developed for Baraka Bahati 2000 CBO, as a measure for capacity building of a local CBO which has taken initiatives to participate in solid waste management in the study area.

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**ABBREVIATIONS**

<b>AIDS</b>	<b>Acquired Immune Deficiency Syndrome</b>
<b>CBO</b>	<b>Community Based Organization</b>
<b>DC</b>	<b>District Commissioner</b>
<b>DED</b>	<b>District Executive Director</b>
<b>HIV</b>	<b>Human Immune Deficiency Virus</b>
<b>HSP</b>	<b>Health Support Programme</b>
<b>JICA</b>	<b>Japanese International Cooperation Agency</b>
<b>KTC</b>	<b>Korogwe Town Council</b>
<b>PRA</b>	<b>Participatory Rapid Appraisal</b>
<b>TCDO</b>	<b>Township Community Development Officer</b>
<b>TD</b>	<b>Town Council Director</b>
<b>THO</b>	<b>Township Health Officer</b>
<b>TO</b>	<b>Trade Officer</b>
<b>TP</b>	<b>Town Planner</b>
<b>TPO</b>	<b>Town Planning Officer</b>
<b>TMMO</b>	<b>Township Manpower and Management Officer</b>
<b>UN</b>	<b>United Nations</b>
<b>URT</b>	<b>United Republic of Tanzania</b>
<b>VEOs,</b>	<b>Village Executive Officers</b>
<b>WEOs</b>	<b>Ward Executive Office</b>

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## **CHAPTER ONE**

### **1.0 COMMUNITY BASED ORGANIZATION BACKGROUND**

#### **1.1 Introduction**

Baraka Bahati 2000 is a fledgling organization, which when this study commenced it has three years of existence. The group is involved with environmental management issues and its main objective is to develop a sustainable environmental system in Korogwe Township. Baraka Bahati consists of 35 women members residing in Korogwe Town Council area. The group was registered as a local Non Governmental Organization as from July 2003, and it embarked on environmental management activities starting from 2000. Before that it was engaged in other income generation activities. The group now operates within Korogwe Town Council area.

#### **1.2 Mission**

To participation in environmental management activities especially on solid waste management.

##### **1.2.1 Specific objectives of Baraka Bahati 2000 (CBO)**

- To undertake environment management activities in Korogwe Town Council area
- To raise public awareness on the issue of solid waste management
- Finding ways of working with other Governmental agencies and private

sector to improve solid waste management system in Korogwe township.

- To promote group saving through other income generating activities and seek
- for financial assistance from International, National and Local organizations

### **1.3 Activities/Programs**

#### **Objective 1:**

*To undertake environment and sanitation activities in Korogwe Town Council area.*

#### **Activities:**

- The provides cleaning services at Korogwe District Hospital
- Gardening and planting shade trees in surroundings of the District Hospital.
- To produce organically produced flowers and seedlings to various customers
- Maintain yard lawns and pruning trees in the District Hospital environs

#### **Objective 2:**

*To raise public awareness on the issue of solid waste management*

#### **Activities:**

- To sensitize the community on environmental management through sales of flowers and tree seedlings for environmental protection.

**Objective 3:**

*Finding ways of working with governmental agencies and the private sector to improve the solid waste management system.*

**Activities:**

- The group applied for environmental sanitation tender at the District Government Hospital and it won the tender for the hospital external environment sanitation services.

**Objective 4:**

*To improve group and economic growth and seeking for financial assistance from international, national and local organizations*

**Activities:**

- Producing flowers and tree seedlings for sale to community members and visitors.

Therefore the group deals with environmental management activities specifically on environmental conservation, solid waste disposal and sanitation activities.

**1.4 Assignment****1.4.1 Project Proposal Preparation**

The Project adviser wrote a letter of application to the CBO, and group members agreed in principle to work with project adviser (see appendix 1).

A joint meeting held on 25<sup>th</sup> October 2003 discussed with the project adviser on problems which's solution required the adviser's assistance. A needs assessment exercise for the CBO was carried out and results of the assessment follows below

### **1.5 The CBO Strength, Weakness and Opportunities**

The needs assessment was conducted through discussions on CBO problems. The group adviser discussed with the group members in order to have insight information about the organization. Group members carried out situational and stakeholder analysis and come out with strengths, weakness and opportunities of the organization.

#### **1.5.1 Strengths**

- The group conducts regular meetings once every month as per constitution.
- The Organization structure is available and allows for top downwards communication and vice versa. This means that there is an authority structure
- There are good leadership skills with good governance (i.e. democratic system).
- There are national policies, which create conducive environment for private sectors and CBOs to participate in community development activities.
- Group members are a good source of manpower and there are mixed types of professionals like teaches, housewives, community development workers, agriculture and livestock specialists and environmental management workers
- The organization has a good networking with Government.
- The group has a saving account at a National Micro Finance Bank

### **1.5.2 Weaknesses**

- Members of executive committee do not meet regularly as required by constitution.
- Attendance to work is not satisfactory
- Some of group leaders are not committed to work.
- Meeting procedure is not well followed.
- Most of them have no skill rather they use work experiences. They could perform better if they train in those skills.
- Some members lack of motivation due to low education levels.
- The group has not sufficient networking with donors

### **1.5.3 Opportunities**

- The group member can improve their work effectiveness if they get training.  
(i.e. .capacity building)
- The group members can work effectively if they could be sensitized.
- The group could perform better if the obtain funding assistance from both internal and external sources
- The group member can work effectively if they could have good health.
- The group member can work effectively if the poverty among members is reduced
- The group member can work effectively if they have good facilitation skill.

#### **1.5.4 Threat**

- The main threat facing the organization is change in policy

The meeting resolution was to link the group with Local Government and Non Governmental Organizations. Another assignment was preparation of project proposal for financial assistance (see appendix 2.a). Probing on the type of proposal, the group members agreed on solid waste management project in Korogwe Town Council area. They agreed in principle that the project should have three components.

Including:

- Community awareness and sensitization on solid waste management system,
- Develop gardens in government office spaces and open spaces in the township.
- To improve coordination between individuals, community and group members.
- To initiate community based solid waste collection system in Korogwe town council area..

They proposed few members to work with group adviser and come out with the action plan for the year 2004 (Appendix 2 b). Despite of the need of project proposal on community based solid waste management in Korogwe township, it was felt that there was a need to undertake survey on prospects of community participation on solid waste management system in Korogwe Town Council area before developing a proposal



needed by the group members. It was envisaged that the survey results could help understanding on the community attitudes and possible alternatives before initiate the project. Also it was expected that the survey results would open the way for developing community-based solid waste management project in Korogwe Town Council under Baraka Bahati 2000 group. The general objective of the survey was to identify the possibilities and limitations of Baraka Bahati CBO to implement the projects and to finding the ways of mobilising the available resources.

The group members agreed that the group adviser undertake a survey on prospect of community participation on solid waste management in Korogwe township.

### **1.6 Objectives of the Study**

The general objective of the study was to examine the prospects of community participation in solid waste management in order to improve the landscape amenity and improve the health status of the people in Korogwe Township.

#### **1.6.1 The Specific Objectives**

1. To asses the existing solid waste management system in Korogwe Town Council.
2. To examine the limitations of community based organization to participate in solid waste management system in the area.

3. To assess the effectiveness of legislation and law enforcement in solid waste management.
4. To propose incentives to motivate community to participation in solid waste in solid waste management.
5. Recommend the best ways to incorporate community-based organization in the councils solid waste management system in Korogwe Town Council area.

### **1.7 Justification of the Study**

Disposal of solid wastes remains a predominant problem in rapidly urbanizing areas in the third World Countries including Tanzania. Solid waste disposal has traditionally been managed as public utilities by central government. But chronic financial constraint prevalent in developing countries has severely impaired the Central Government capacities to finance the utilities. In efforts to improve service delivery, there is now a paradigm shift, where the main emphasis is devolution of management responsibilities and decision making to communities at local level. Participation of the community of users in management of the environment and public service delivery has proven to be a more sustainable approach. Participatory approach is especially potentially efficient in solid waste management. In Tanzania, some success has been reported in pilot programme in Dar-es-Salaam city (United Nation Report, 1998). During need assessment exercise in Korogwe Town, it was established that there is an urgent need for joint effort to tackle the increasing the problem of solid waste disposal, through participation of the community of stakeholders. This survey aims at establishing the

need and demand for community participation on the solid waste management system in Korogwe Town council. The felt need in the project area, and the current development paradigm which emphasizes community participation, justifies a study to examine the potentials and factors that will determine successful community participation in solid waste management in Korogwe Town Council area.

### **1.8 Research Questions**

Despite existence of solid waste management system in Korogwe Township, the level of stakeholders participation differ form one place to another. There is a relationship between decentralization of solid waste management and community participation. The following research questions have been addressed by this study

1. To what level the community could participates in solid waste management system in Korogwe Township?
2. What are the roles of CBOs in solid waste in the project area?
3. What is the effectiveness of legislation and law enforcement agencies in solid waste management system?
4. What are best ways to incorporate community based organization in the solid waste management system in Korogwe Town Council area ?

## **1.9 Other Assistances Provided by the Adviser**

In efforts to linking the group to local Government and other financial organizations the following effort has been made:

### **1.9.1.1 Finding the CBO office**

The CBO in collaboration with the adviser has found the CBOO office in Majengo area. During project phase I the members had furnished and moved into the new office

### **1.9.1.2 Preparing group strategic planning**

The group adviser with few selected group members prepared a draft strategic plan for the group. The draft plan was intended to be presented at a general meeting in February, 2005.

### **1.9.1.3 Environmental sanitation**

The group leadership with advisor contacted the District Medical Officer for another twelve-month contract for the environmental cleanliness. The group signed a contract on environmental sanitation for twelve months from January to December 2005.

### **1.9.1.3 Establishment of tree/flowers seedling nursery**

Preparation of a seedling nursery has started with 500 seedlings, and 70 seedlings had been planted around the District Hospital. The CBO intended to increase the number of

seedlings to 1500. The group members were preparing *gravellier* tree cuttings in their nursery for fencing at the district hospital and sale at low price - to community members.

### **1.10 Structure of Presentation**

The study is presented in five chapters. Chapter one presents the background of community based organization. The chapter contains mission, objectives program/ activities, and assignment. Chapter two discusses theoretical, empirical and policy review of solid waste as a problem especially in the third World Countries. It shows the importance of solid waste from technological point of view as a source of income generation and potential for improving farm productivity. It spells out the importance of local community and community based organizations in handling solid waste and disposal as an appropriate and sustainable approach for management of municipal waste. Chapter three covers the research methodology, a scope of survey, research design, research approach and strategies, sampling techniques, data collection and data analysis. Chapter four presents the study results and recommendation. Chapter five discusses the implementation of recommendation based on finds of community survey on prospects of community participation in solid waste management system.

## **CHAPTER TWO**

### **2.0 LITERATURE REVIEW**

#### **2.1 Theoretical Review**

Many theorists have advocated different definitions for solid waste management system. Among these (Waste Watchers, 2004) define solid waste as “a variety of solid materials as well as contained liquids, which are discarded or rejected as being spoiled or in excess, including; garbage, refuse, yard thrash, clean debris, white goods, special waste, ashes, sludge or other discarded materials. They also define sold waste management as everything that must be done to handle all the solid waste produced in a community, including collecting, transporting, processing and disposal of waste (Waste Watchers, 2004).

The disposal of solid wastes is an increasing global problem. Millions of people continue suffering haphazardly dumped wastes. For example Egypt (one of the countries that produces huge amount of solid wastes) produce about 11.8 millions tons of garbage annually, which implies that every square kilometer of residential area produce 198 tons per year. This is considered as highest rate worldwide (Hansen, 1998). Such huge amount of solid waste is also considered as a potential source of income generating since it contains large percentage of recyclable materials. The research carried out in Egypt reveals that incomes of nearly 600 Million L.E (about 196 million US dollars) were generated annually from garbage recycling (Schimgt, 2003).

The problem of solid waste management is prevalent in highly developed as well as least developed countries. The problem is the same but it differs in scale, technology, and approach for the solid waste management services. For the low-income cities the main problem is how to extend the collection services to the poor. Often 50 percent of residents in less developed cities are without waste disposal services. In middle income and high income cities solid waste collection is reaching 95 to 100 percent of population, but disposing of ever increasing quantities of waste emerges as enormous challenge (World Resource Institute and World Bank, 1996). Under the traditional approach to solid waste management, the Municipal/ Towns Councils handle all the process of collection, transport and disposal. This approach had proved to be unsuccessful in most areas. For example, in developing world Municipal system handles only a small fraction of the waste generated by the city. In many cities especially Asia more waste is dealt with, by vast network of the urban waste picker. For example in Mandras, India one Non Governmental Organization working with scavengers was integrated into the cities door to door solid waste collection services. Then deliver the waste to municipal vehicles or deposit it at transfer points, with household paying fees to this service (Ferudy, 1994).

Solid waste management laws were enacted in order to keep the system of solid waste management functioning. In Tanzania, section 20 of the Environmental Conservation Act. No, 73 of 1989 (URT, 1989) waste can only be disposed at a waste disposal facility (Therno, 1992). Rapid rate of uncontrolled and unplanned urbanization in developing

nations of Africa including Tanzania, has brought environmental degradation. DESIP (1996) defined the major environmental problem in Africa as; environmental degradation, depletion of natural resources, sub standard and deteriorating infrastructures and social amenities (e.g. housing, water, sanitation, health and education.). These environmental problems are exacerbated by a number of factors like rapid population growth, poverty, uneven spatial distribution of the population, destruction of protective vegetative strips in urban centers. Other factors are extensive firewood foraging, land deterioration through mineral exploitation, rapid and essentially unplanned urbanization, inadequate and / or lax enforcement of the environmental and occupational health legislation and the economic crisis.

The rate of urbanization in African countries implies a rapid accumulation of refuse. For example, the Nigerian environmental study/ action team has estimated that 20 kilograms of solid waste is generated per capital per annum, this amount to 2.2 million tons/year given Nigerian population estimated of more than 100 million (Ohibokun and Kumuyi , 2003). International experience shows that those countries whose population has high level of awareness and strong commitment on the environmental protection have highest performing waste management services (Halfan, 1995). In Tanzania the program of solid waste management has shown some improvement in Mwanza region after the introduction of solid waste management program that was initiated from the grassroots level. The community has used local agenda 21 processes to form stakeholder's groups that worked with the community helping in finding the solution of



waste management problems. Stakeholders working groups brought together community representatives, waste service providers and policy makers to develop a three years strategy to develop a waste collection and recycling strategy. Community participation was an important part of the solution ( Schmig, 2003).

The budget allocated from the Government in the least developed countries is usually not sufficient to handle the solid waste collection services. A number of solid waste management systems is now available in the world including; technology for composting of Municipal waste, high technology of solid waste incinerator, land fillings, recycling technology, composting frontiers, and mushroom farming (Rachel's , 1993). A new way of producing high quality compost from Municipals solid waste has been introduced in the US from the Netherlands. It appears an effective alternative to incineration and land filling, whereby up to 50 percent of Municipal solid waste can be composted (Rachel's, 1993).

These technologies could effectively solve the solid waste management problems if introduced in African countries especially to least developed countries. For example a research on simple solid waste incinerators by intermediate technology consultant and integrated skill limited was carried out into four countries: Gambia, Zimbabwe, Malawi and Kenya - gave satisfactory results. Furthermore research carried out in Nairobi and

Mombassa in Kenya established that private businesses and individuals had adopted the technologies in support of the government initiative aimed at waste minimization (Halfan, 1995).

## **2.2 Empirical Review**

Empirical research to compare experiences with community participation and community management in solid waste management in urban areas is of great importance in environmental sanitation. Environmental sanitation is used here in its broadest sense, including solid and liquid waste collection and disposal, drainage and hygiene. The growing attention for this issue can be used to stimulate research and pilot projects to combine community participation experiences from different service sectors. Studies on the effectiveness of community participation in solid waste collection, and disposal are of prime importance because they provide empirical evidence on the applicability and operational value of these approaches (Klundert, and Lardinois, 1995).

In vast literature it is shown that management of solid waste has remained a global problem especially in the least developed world. In Europe community surveys has established that, over 1.8 billion tons of wastes are generated each year. This is equivalent to 3.5 tones per person. With such vast quantities of waste being produced, it is of a vital importance that it is managed in such a way that it does not cause any harm to either human health or to the environment (Rachel's , 1993).

The high rate of urbanization in African countries including Tanzania is associated with the problem of rapid accumulation of solid waste in urban areas. This is likely to affect the lives of city residents and the economies of these countries. Studies have shown that a growing number of urban dwellers have limited access to acceptable adequate housing, transportation, water supply, health services, education and domestic waste disposals (World Bank, 1996). This may result into increase of poverty, underemployment, unemployment and other social ills.

For instance in Mexico City the amount of waste generated continues to increase along with population growth and expansion of the city limits. As a result, there has been expressed an urgent need to secure final disposal sites and reduce waste. Therefore, the authority formulated a master plan for solving solid waste management by year 2010. The wastes targeted in the study were the solid wastes (i.e. domestic waste, commercial waste, street sweeping waste, market waste, and medical waste). Recommendations were made on the introduction of separate collection, the improvement in efficiency of resource recovery, the introduction of composting facilities. Others are expansion of existing disposal sites, and the development of new disposal sites (Serdon, 1999). Feasibility studies were conducted on the introduction of composting facilities, expansion of existing disposal sites, and the development of new disposal sites.

The Study on Regional Solid Waste Management in Turkey, formulated guidelines for measures to improve solid waste management, including a recommendation to prepare a solid waste management (SWM) plan at the regional level for Adana and Mersin cities, located in the Mediterranean Region of Cukurova. The study formulated a SWM master plan covering domestic waste, market waste, commercial waste, street sweeping waste, office waste and medical waste for the two cities, focusing on the above two municipalities. The plan consisted of construction of a sanitary landfill, promotion of recycling, improvement of the efficiency of collection services, measures for legal reform, improvement measures for medical waste management, and improvement measures for hazardous waste management. In order to facilitate implementation of the plan, a demonstration was given for improvement of the existing disposal site to prevent leachate contamination and fires in Adana, and for improvement of separate collection and compost quality in Mersin (Klundert and Lardinois, 1995).

In El Salvador the Study aimed at reviewing the existing solid waste management (SWM) plan for the San Salvador Metropolitan Area and formulates a comprehensive master plan for regional SWM. The study covered household waste, commercial waste, institutional waste, street sweeping waste, and medical waste. Recommendations were made on the following: compilation and effective use of data related to waste flow, improvement of collection route and proper operation of collection vehicles, establishment of transfer stations and a trailer transport system, institutional

improvement measures for the administration of SWM services. Others were to forming of a regional administrative structure to support the other 13 municipalities, independent accounting of SWM services and improvement in efficiency of fee collection from household users (Kim, 1999).

In Kenya the study focused on the problems and opportunities of community-based waste management in Nairobi city, established that - in the informal settlements; women's groups have started composting organic wastes as means of improving community environmental management and generating income through the sale of the compost. The central purpose of the study was to assess the success of composting projects in meeting environmental and community development goals. A complementary purpose of the study was to add to the limited amount of research on waste in East Africa. The participatory research techniques employed in this study revealed that significant environmental improvements have been achieved through composting, including improved health, urban agriculture opportunities, better drainage and access within the communities, and the potential to address rural-urban imbalances in resource flows (Kim, 1998).

In terms of appropriate roles for NGOs, CBOs and local authorities, the research provides evidence that communities are more than willing to provide for themselves the

urban service like waste disposal when local authorities are unable to do so. In providing advice, training, and credit to these organizations, NGOs have an important role to play. The resources of local authorities could therefore be best employed in regulating, coordinating and advising CBOs and NGOs effort in the provision of urban services like waste management (*ibid*).

In Mwanza city, Tanzania - the 1999 legislative amendment, responsibility for solid waste management in was transferred from the Local Government to the communities. However, the Municipality of Mwanza faces various problems such as lack of a solid waste management plan, a shortage of human resources, and inefficient waste management. The objective of the study was to formulate a solid waste management master plan targeting improvement of solid waste by year 2010. Feasibility studies were also conducted on priority projects such as the construction of a new final disposal site and the introduction of a transfer and transport system. In addition, pilot projects were conducted for collection improvement, separate collection, upgrading of an existing final disposal site, construction of a database for solid waste management, environmental education, and introduction of a system for communicating with residents in order to develop the Municipality's capacity to provide waste service (Schmigt, 2003).

The problem of solid waste in Korogwe Town Council area is partly contributing to high risk of transmissible diseases especially cholera, typhoid, and malaria especially

during the rainy seasons. The German and Tanzania Health Support program report of 2001 shows that, the key health problem is malaria, followed by diarrhea, and respiratory track infections (Health Support Program, 2001). The Town council health report for the diseases prevalence's for the period starting from 2000 to 2002 shows that malaria case is leading in both the morbidity and deaths followed by typhoid, diarrhea and cholera. (Annex 3) shows the case and the death to different diseases.

Health, education and water committee of the Town Council reported that the environment of the Korogwe Town is dirty, littered with the solid wastes, whereby most of it originates from residential houses. The wastes are haphazardly dumped in drainage system, which in turn leading to stagnation of rainy water system and become the breeding place of mosquitoes. Korogwe Town Council is a new Council established by the Government gazette number 515 of 22, November 2003 with the intention of promoting it to a full Township Authority.

### **2.3 Policy Review**

In East Africa countries, there is a general consensus that the private sector can play an effective role in the provision of municipal/ local Government Authority services. The private sector is envisaged to bring in good business practices, which would satisfy consumer demands. Efficiency and effectiveness are expected to lower operating costs which would in turn guarantee overall cheaper services. The public sector would still play a major role in the formulation of policies and the regulation of the implementation

process. The government liberalization programme would also include all stakeholders to ensure programme sustainability. The growth of the private sector in all countries can be seen as a result of necessity and entrepreneurial spirit rather than the existence of an environment, which supports and promotes enterprise (Egunjobi, 1989).

In East Africa, decentralization is largely a recent and continuing process of institutional change supported by those who perceive it as a mechanism for shrinking the size of the central government and its control over capital and those who see it in the light of leveraging greater access for the people to government and government to the people, stimulating a national participation in development planning and management. The challenge facing governments, international agencies and especially local authorities at this point in time is the reorientation of policies and strategies of municipal management in order to improve social equity, social integration, and social stability. This of course involves reducing poverty, deprivation and social exclusion. Meeting this challenge will partly require the relaxation and rationalization of existing housing and infrastructure standards which have tended to exclude the poor, as well as the institutionalization of an enabling framework which will permit community-based organizations (CBOs), non-governmental organizations (NGOs), individual households, the private sector and informal sector to contribute towards the provision and maintenance of urban services, including solid waste management particularly in low-income areas (Hansen, 1998).



Economic growth requires a better balance between national and with regard to solid waste management, the local authorities' role and effectiveness has been declining. For instance, in Nairobi, about 1,000 tons of garbage are generated daily. The city environment department of Nairobi is only able to collect and dispose 400 tons per day. The private sector firms operating in the city are able to collect and dispose 500 tons daily, leaving 100 tons to accumulate (Egunjobi, 1989). Lack of regular garbage collection, financial distress extended to them to rely on the private sector. Therefore, local government infrastructure investment can only be achieved if such decisions are localized.

In post-independence Tanzania there was some form of privatization of solid waste disposal services. Then service users were obliged to pay taxes, licenses, fees etc. that contributed directly or otherwise in financing different services. Utility services such as water supply and electricity were supplied by central government agencies, which collected user charges directly. The practice was changed after the Arusha Declaration in 1967, which among other things pronounced the United Republic of Tanzania as a socialist state and advocated for widening the role of the public sector at the expense of the private sector. Thus after 1967, the role of central and local government institutions in service provision was widened and that of the private sector, if anything, closed.

In 1972, the government abolished urban local councils, and functions entrusted to them were placed under district authorities and regional administration, which were basically central government institutions. The 1972 Decentralization Act, which abolished the Local Councils, provided a basis for the central government to take charge of service provision in both urban and rural settlements. The centralization of service provision was much more pronounced in health and education services, where a number of private schools and hospitals were nationalized. On the basis of socialism these services were declared free to all citizens of the United Republic of Tanzania (Gaye and Diallo, 1994).

In addition to lack of sufficient public funds to finance the services in urban areas, to make matters worse, the little resources available were directed towards rural development, because that was where the government development was claimed to be. Consequently, the level of service provision in urban settlements deteriorated rapidly during the late 1970s and early 1980s (Gaye and Diallo, 1994).

In 1978, the government reinstated the urban and district councils. Services like water supply, roads, fire protection, malaria control had deteriorated badly and there was a public outcry over the worsening urban conditions. This deterioration was a result of destruction of the then administrative set-ups, the transferring of the experienced

manpower from local service to the regional administrative offices and their replacement by inexperienced ones from the central government. The deterioration was further attributed to a heavy bias against urban areas in favor of rural areas in government budgetary allocations (Kulaba, 1989). One may recall that even the training of local government personnel at the designated institutions in the country came to a standstill. Four years later, the Local Government (District Authorities) Act, no. 7 of 1982 and The Local Government (Urban Authorities) Act, no. 8 of 1982 were enacted, to provide the legal basis for facilitating the new local councils in carrying out their duties. These two pieces of legislation outline the main functions of local councils as maintaining peace and order and promoting welfare and economic well being of all persons within respective area of jurisdiction. Other functions include; enhancement of health, education, social, cultural and recreational life of the people.

To execute the above main functions, urban local councils were entrusted to provide among other services: solid waste management in congested areas; inspection of food stuffs; control, maintenance and supervision of markets, cold storage depots and slaughter houses; keeping and maintenance of public latrines, urinals, cess-pits; removal of refuse and filth from public and private places; street lighting, keeping in good order and cleaning of street sewers and trunk roads and other works, matters and services necessary for public safety, and health.

The 1982 Local Government Act came into effect at a time when private sector participation in service delivery was at its minimum, as it was only in public transport in form of town buses that the private sector was involved. More attempts to encourage the private sector to participate in the provision of municipal services were made by the central government. For instance the Trade Liberalization Policy of 1984 was formulated. However, it was not until the late 1980s and early 1990s that the private sector involvement in service delivery became more noticeable. Given the crisis in service provision which developed out of the pre- 1980s policies, various areas attracted the private sector and grassroots in service provision: These are: public transport; mainly focusing on transportation of goods and passengers within particular urban areas. Education services; like nurseries, primary and secondary schools and after 1995, universities. Health services; running dispensaries, clinics and hospitals: religious organizations also participate in the provision of this service. Infrastructures - like, roads, drainage channels - construction and improvement. In all urban areas there are attempts for community-based programs to construct and improve roads and drainage in their respective neighborhoods. Donors, NGOs and respective local communities support infrastructure improvements.

Privatization of solid and liquid waste collection and disposal is slowly adopted in both small and big towns. Others are public toilets; keeping and maintaining public toilets, managing parking spaces in towns and provision of night security at community level.

In the municipalities where privatization has been tried the mode has been through contractual agreements between the urban local authority and a contractor taking over the new role; leasing of services formally provided by the authority to the private operator and introduction of user charges. However problems are noted for instance in the quality of service offered as well as in low level of service charges declared to have been collected.

The government of United Republic of Tanzania is yet to formulate an overall policy on privatization of municipal services provision. Thus, the privatization initiatives outlined above are mainly based on several factors, including pressure from users and the private sector response to exploit the gap between what the public sector offers and residents demands. In the absence of such a policy, local councils wishing to privatize the provision of services use the existing legislation particularly the Local Government Acts, no. 7 and no. 8 of 1982 (URT, 1997).

In addition to the legislation the Local Government Reform Agenda that is part of the current civil service reforms also provide some policy guidelines with respect to municipal services provision. In 1993, the government started reforms in the central government through the Civil Service Reforms Programme under the President's office. Under these reforms the agenda for local government reforms has been instituted. The

need to make reforms arose from the desire of solving the prevalent inefficiencies in the civil service. Poor service delivery, bureaucratic red tapes and corruption have been cited as the causes of carrying out these reforms (URT, 1997).

A fundamental goal for the agenda is improvement of service delivery. Specifically the reforms call for a need to eventually chart out ways in which service provision functions shall be shared among central government agencies, local authorities and the private sector. The agenda envisages a local council, which will perform the following functions with respect to privatization of municipal services: These are: conducting its activities with transparency and accountability, fostering participation in development, by involving individual agencies and partnerships and deriving legitimacy through provision of services to people. Among the civil service reform measures, which have been implemented, is restructuring of the regional administration following the enactment of the Regional Administration Act, no. 2 of 1997. The Act provides for the decentralization of municipal services from local authorities to the private as well as the popular sector including individuals, private companies and local communities (URT, 1997).

In responding to the national level policies, the Dar es Salaam City Commission has also outlined some policy recommendations towards the improvement of service

provision including privatization. In its Strategic Plan for the Restructuring of the City Council, the Commission outlines the following objectives towards service provision: Making sure that civil societies fully participate in local governance, urban services are delivered appropriately by the assigned level of local government and in partnership with the private sector where this cooperation contributes significantly and cost-effectively to improve services. Administrative systems are established and facilitate effective management and service delivery. Effective mechanisms for administrative co-ordination with other public authorities and service providers are operational. Public-private-community sector partnerships are functioning where appropriate and contribute to meeting basic needs. Public-private-community partnerships contribute to enhanced efficiency and effectiveness of service delivery. Dar es salaam City Council at all levels suitably funded by central government, based on rewarding good performance in improved service delivery and own revenue collection.

Now, community participation on solid waste management is becoming increasingly prominent in the public health agenda especially in the health sector reform in developing countries. Health sector reform in Tanzania calls for public, private sector, community based organization to participate in the health preventive activities.

By allowing private, public, community based organizations to participate in solid waste management, governments will be able to spend more on other public health

facilities like procurement of drugs, schooling, housing and social welfare. Tanzania has initiated a number of measures to broaden the resource base in health sector, including the introduction of cost sharing in district hospitals and health centers. There are plan of extending cost sharing to all levels of dispensaries and health centers to more districts (URT, 1999). The government has now demanding the district and the Town councils to increase revenue collections so as to cover the excessive budgetary demands. This could only be achieved by increasing the taxes and the community had to bear the burden. By decentralizing management and provision of health care to local government enables effective mobilization, allocation and efficient utilization of resources (including human resources). This will also lead to improvement of management system, decentralization decision making to local planning level and allow community involvement in health, service planning and management. Through decentralization of responsibility of provision of health care, make it possible for the private sector including Community Based Organizations, NGO's, and commercial organizations to be contracted as service provider in the health sector.

The current health policy, allow different stakeholders to participate in the solid waste management. This provides an opportunity for community participation on solid waste management system in Korogwe Town Council area. Furthermore, the health department has the coordinating roles of all stakeholders to work as a team towards a lasting solution to solid waste management and disposal in Korogwe Town.



## **CHAPTER III**

### **3.0 RESEARCH METHODOLOGY**

#### **3.1 Research design**

In order to obtain data on solid waste management in Korogwe township a cross sectional survey design was adopted in this study. This design allows data to be collected once in time at a given geographical location.

#### **3.2 Dependent variable**

The dependent variable was the willingness of community to participate in the solid waste management.

##### **3.2.1 Independent variables**

Independent variables of the study include the social economic factors that may influence the independent variable. These include income levels, age, gender, education level, and awareness of environmental problems.

#### **3.3 Research approach and strategies**

Sampling survey was conducted in Korogwe township in order to establish the attitude of the residents with regards to participation in solid waste management. A combination

of methods including: formal survey and informal surveys, and participant observations were implied in data collection

### **3.3.1 Sampling techniques**

#### **3.3.1.1 Study population**

The target population was a community of all residents residing in Korogwe Town Council. Simple random sampling method was employed in selecting sample of respondents in this study. Simple random sampling technique was used to select three study villages from Korogwe Ward. The study villages selected from those villages in which solid waste collection activities are taking place. 20 streets were randomly selected out of a total of 54 streets. A sampling frame used in this study was a list of names of household heads residing in the area. The names of residents were assigned numbers that was used for random selection of study participants. The identified interviewees were notified about the research. Village leadership and streets leaders assisted the researcher in showing interviewee residents. The CBO leadership was interviewed as the key informants, and a total of 10 members from the CBO were selected randomly for interview. The administration personnel interviewed include the DC, DED, TD, TPLO, TO, TMMO, TCDO, THO, WEO, VEO, and village chairpersons.

### 3.3.1.2 Sample size

The sample size was determined using the formula reported in Boyd *et al.* (1981). The formula given as:

$$\frac{n}{N} \times 100 = c$$

**N**

Where:

C = figure greater than or equal to five percent of village household population.

N = the total number of the household in the village

n = the number of selected households

$$c = 5$$

The number of households in the study locations was as follows.

Manundu	=	2100
Kilole	=	1400
Old Korogwe	=	1000

By using the above formula the sample size was as follows

Manundu	=	105
Kilole	=	70
Old Korogwe	=	50
<b>Total</b>	=	<b>225</b>

### **3.3.1.3 Data Collection**

Both secondary and primary data were collected during this survey.

### **3.3.1.4 Primary data collection**

Primary data was collected by means of a questionnaire survey. The questionnaire was designed to capture the solid waste management system of Korogwe township. The data collection tools were translated into Swahili language, then pre-tested to ascertain the consistence of answers and level of apprehension of questions by the respondents.

### **3.3.1.5 Quantitative data collection**

The tool used for quantitative data collection is a structured questionnaire that included both open ended and closed-ended questions. Five assistant researchers were used in the administration of the questionnaire. The in depth interviews using open-ended questions aimed to get the community insight on how to improve the solid waste management system. The main purpose of in depth interviews was to assess the likelihood of community participation and limitations of participating in solid waste management through cost sharing. Each interview took 20-25 minutes.

### **3.3.1.6 Participant observation**

Direct observations were carried out on the particular areas, including the: household collection bins, dumping sites, yard thrush, collective storage centers for solid waste, and transport system to the dumping sites.

### **3.3.1.7 Participatory Rapid Appraisal**

The PRA approaches were employed in order to raise community awareness on regards to solid waste problem in Korogwe Town Council and the likely solutions to the problem. During focused group discussions some solutions to the problem were proposed. The focused group discussion groups consisted of incomes generation groups, members CBOs, Council Management Team.

### **3.3.1.8 Secondary data collection**

The secondary data include the information regarding performance of solid waste management was obtained in Korogwe Town Council reports, records files, statistics on waste budget and infectious diseases transmission. The type of information referred as secondary data.

## **3.4 Data Analysis**

Both primary and secondary data were analyzed by using a computer program,

the statistical package for social science SPSS. The frequency distribution and descriptive statistics were used in presenting results.

## CHAPTER FOUR

### 4.0 RESULTS AND DISCUSSION

#### 4.1 Social and Demographic Characteristics of Respondents

The study involved 219 respondents. Among the respondents interviewed females were 109 (41%) and men were 110, which is 59% of all respondents. The age of respondents is shown in table 4. Results in table 4 show that, the maximum age was 79 years and the minimum age was 15 years. The mean age of respondents was 43.8 years old.

**Table 4: Age distribution of respondents**

Age category	Number of respondents			
	Men	Women	Total	% age
15-25	13	12	25	11.4
26-35	26	38	64	28.3
36-45	38	33	71	33.0
46-55	22	19	41	19.0
55 and above	11	7	18	8.2
	<b>110</b>	<b>109</b>	<b>219</b>	<b>100</b>

Source: Field data 2004

Education level of the respondents is shown in table 5. The results in table 5 show that; 51.4 % of the respondents had attained primary education, 14 % did not complete primary education, 26% had secondary education. While 6 percent of respondents had University level.

The income distribution status of the respondents is shown in table 6. The respondents engaged in formal employee were 36.6%, while the self-employed were 9 percent. The respondents who were engaged in farming activities were 55 percent.

**Table 5: Education level of the respondents**

Education level	Number of respondents			
	Male	Female	Total	% Of Total
University	3	10	13	6.0
Form 5-6 (A level)	5	8	13	6.0
Form 1-4 (O level)	32	25	57	26.0
Standard 8	5	5	10	4.6
Standard 7	60	52	112	51.4
Below standard seven	5	9	14	6.0
<b>Total</b>	<b>110</b>	<b>109</b>	<b>219</b>	<b>100.0</b>

Source: Field data 2004

The level of income is categorized into three groups and is shown in table 8. These are high income group earning from T.Shs. 10,000.00 per day and above; medium income group range from 3000-9000 per day and low income group earning below 2000.00 per day.

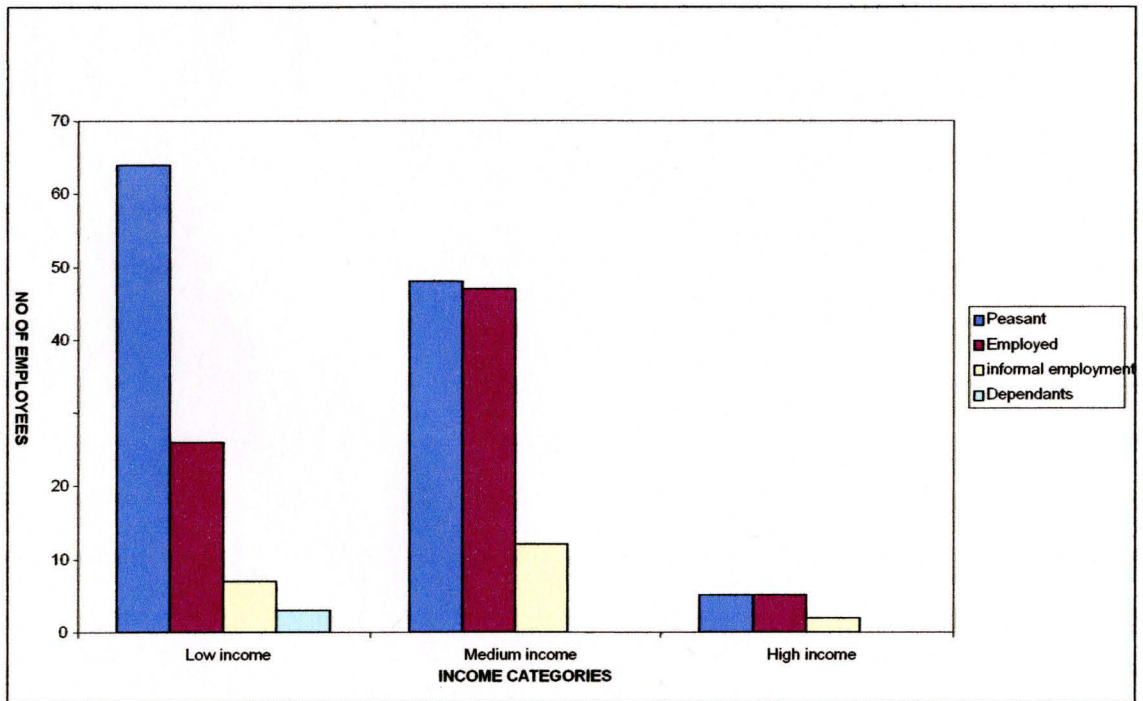
**Table 6: The income distribution of the respondents in Korogwe township by economic activities**

Economic activity	Number of respondents				
	Low income	Medium income	High income	Total	% age
Peasant	64	48	5	117	53.4
Formal employment	26	47	5	78	36.0
Informal employment	7	12	2	21	9.5
Dependants	3	0	0	3	1.4
<b>TOTAL</b>	<b>100</b>	<b>107</b>	<b>12</b>	<b>219</b>	<b>100</b>
<b>% age</b>	<b>46.0</b>	<b>49</b>	<b>6.0</b>	<b>100</b>	

Source: Field data 2004



The results in table 6 shows that low income of the sample population was 46 percent; medium income was 49 percent while high income was 6 percent. Peasant farmer represent the majority of sample population, constituting 53.5% of respondents. Formal employed were 36% of respondents, while informal employment represent 21 percent and unemployed respondents were 9.5 percent. Dependants like old age, and students were 3 percent. Below is the graphical representation of income distribution of sample population.



**Figure 1: Income distribution of the respondents from Korogwe township**

#### 4.2 Community awareness and concern on waste management problem

In order to establish the level of community awareness and concern on solid waste management, a number of questions were asked to assess the level of awareness. The enquiries concentrated in those areas where large volumes of solid wastes were generated. The results in table 7a show that the majority of residents of Korogwe township were concerned over dirtiness and poor waste disposal in the township. Whereby; 49% of respondents identified the residential areas as having serious problem of solid waste disposal, compared with 23% of respondents who identified the market place to have serious problem.

**Table7a: Respondents awareness and concern on solid waste management in Korogwe township**

Area	Number of respondents				
	Household	Key informants	CBO	Total Score	% age
Residential	170	30	12	212	49
Market	70	12	20	102	23
Commercial	40	12	6	58	13
Hotel and restaurants	18	2	2	22	5
Public area.	36	4	2	42	10
<b>TOTAL</b>	<b>334</b>	<b>60</b>	<b>42</b>	<b>436</b>	<b>100</b>

Source: Field data 2004

The results in table 7b show the respondents' opinion on general public services delivery and solid waste management service in Korogwe township.

**Table 7b: Response distribution on public services delivery and solid waste management in Korogwe township**

<b>Inadequate Services</b>	<b>Household</b>	<b>Key Informants</b>	<b>CBO</b>	<b>Total</b>	<b>% age</b>
Service					
Solid waste management system	200	20	12	232	53
Health	58	20	10	88	20
Water	76	20	20	116	27
<b>TOTAL</b>	<b>334</b>	<b>60</b>	<b>42</b>	<b>436</b>	<b>100</b>
<b>Awareness on community-based solid waste management system</b>					
Yes	132	0	0	132	40
No	72	0	0	72	20
Not sure	130	0	0	130	40
<b>TOTAL</b>	<b>334</b>	<b>0</b>	<b>0</b>	<b>334</b>	<b>100</b>

Source: Field data 2004

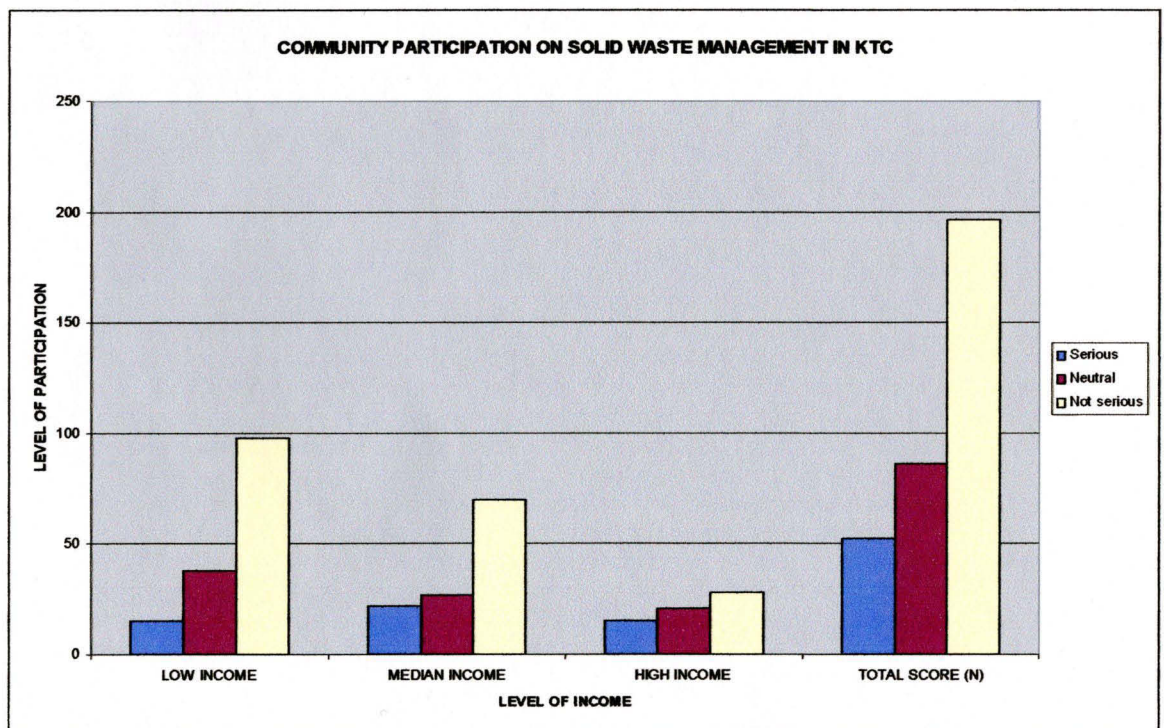
53% of respondents were of the opinion that solid waste service is poorly implemented by the Town Council, while 27% of respondents mentioned poor water supply and health delivery services. Most of the respondents 40% were aware of the solid waste management system in the council, 20% of them were not aware, while 40% were not sure. This indicates that 60% of the respondents were not aware of the solid waste management system in the Town Council.

**Table 7 c: Community participation on solid waste management system in Korogwe Town Council Area**

<b>Level of participation</b>	<b>Household</b>	<b>Key Informants</b>	<b>CBO</b>	<b>Total</b>	<b>% age</b>
High participation	55	0	0	55	16
Moderate participation	86	0	0	86	26
No participation	196	0	0	196	58
<b>TOTAL</b>	<b>334</b>	<b>0</b>	<b>0</b>	<b>334</b>	<b>100</b>

Source: Field data 2004

The result in table 7c shows the likelihood of community participation in solid waste disposal. About 16 % of respondents expressed a high commitment to participate, 26% were undecided (neither or nor participate), while 58% were not committed to participated on solid waste management. The level of participation was assessed in terms contributions in kind or material like financial contribution, and physical participation in general cleanliness of their surroundings. Responses in figure 2 indicate that the majority of the population in Korogwe Town Council was not willing to participate in environmental sanitation.



**Figure 2: Community Participation on solid waste management**

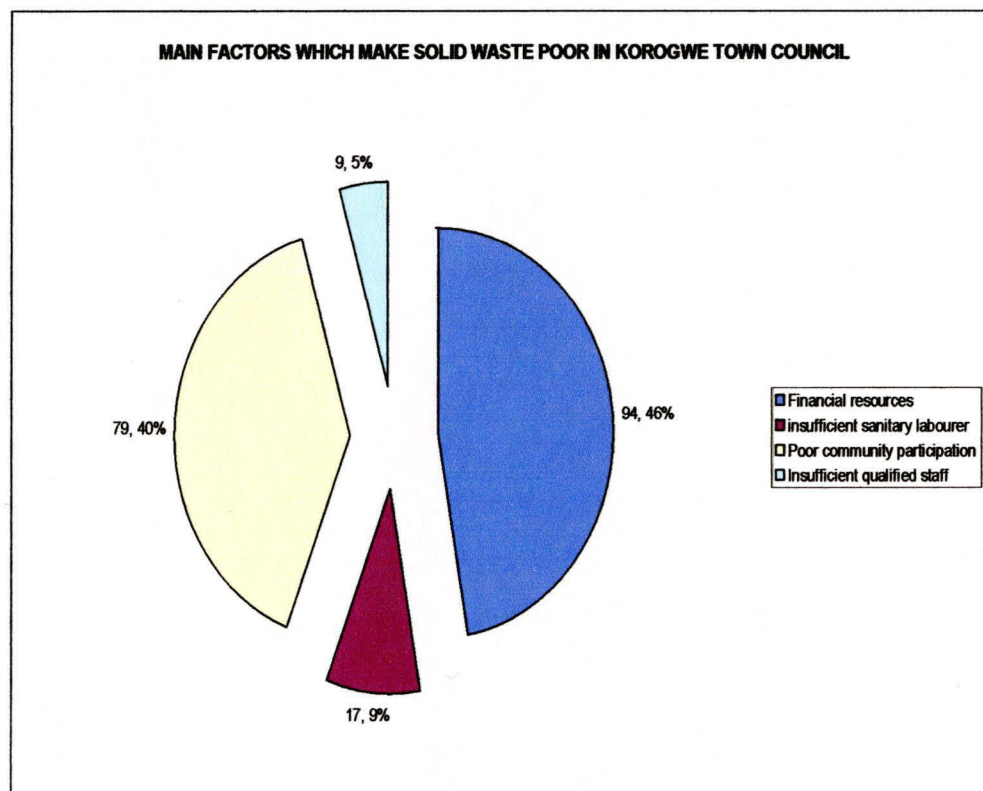
The factors contributing to poor solid waste management in Korogwe Township are shown in table 7c and figure 3. The result in table 7c indicates that the main factors limiting participation on solid waste management were; lack of financial resources 47% of respondents, followed by poor community participation in development programs mentioned by 40% of respondents. Others were insufficient laborers, and lack of sufficient qualified staff 13%. Figure 3 also shows that the main factors contributing inefficient solid waste management system in the township. Therefore financial resources and community participation were mentioned as the main determinants limiting solid waste management in the study area.

**Table 7d: Factors contributing to poor solid waste disposal in Korogwe Town Council area**

Factor	Number of respondents				
	Household	Key Informants	CBO	Total Score	% age
Financial resources	80	14	0	94	47
Insufficient sanitary laborers	15	2	0	17	8
Poor community participation	67	12	0	79	40
Insufficient qualified staff	7	2	0	9	5
<b>TOTAL</b>	<b>169</b>	<b>30</b>	<b>0</b>	<b>199</b>	<b>100</b>
<b>Attendance to health education</b>					
Once per Month	60	4	0	23	16
After three Months	84	8	0	92	23
After six Months	88	16	0	104	27
Not at all	102	32	0	134	34
<b>TOTAL</b>	<b>334</b>	<b>60</b>	<b>0</b>	<b>353</b>	<b>100</b>

Source: Field data 2004

Figure 3 indicates that 94% out of total 169 respondents were of the opinion that inadequate financial resources were the main factor contributing to poor waste management. Lack of community participation is the second main problem mentioned by 79% of respondents. Public awareness on solid waste is poor, as 34% of the respondents had never received health education on regular basis unless there were outbreaks of infectious diseases particularly cholera. 23% receive health education after 6 month and 23% after 3 months while 16% attends health education once a month. Those who receive health education once per month were mostly women attending Maternal and Child Health Care in their respective health clinics.



**Figure 3: Factors Contributing to Poor Solid Waste Disposal in Korogwe township**

In responding to the prevalence of disease among the Township resident (Table, 7d), malaria was considered to be the leading disease reported by 43% of respondents, followed by diarrhea 24%.

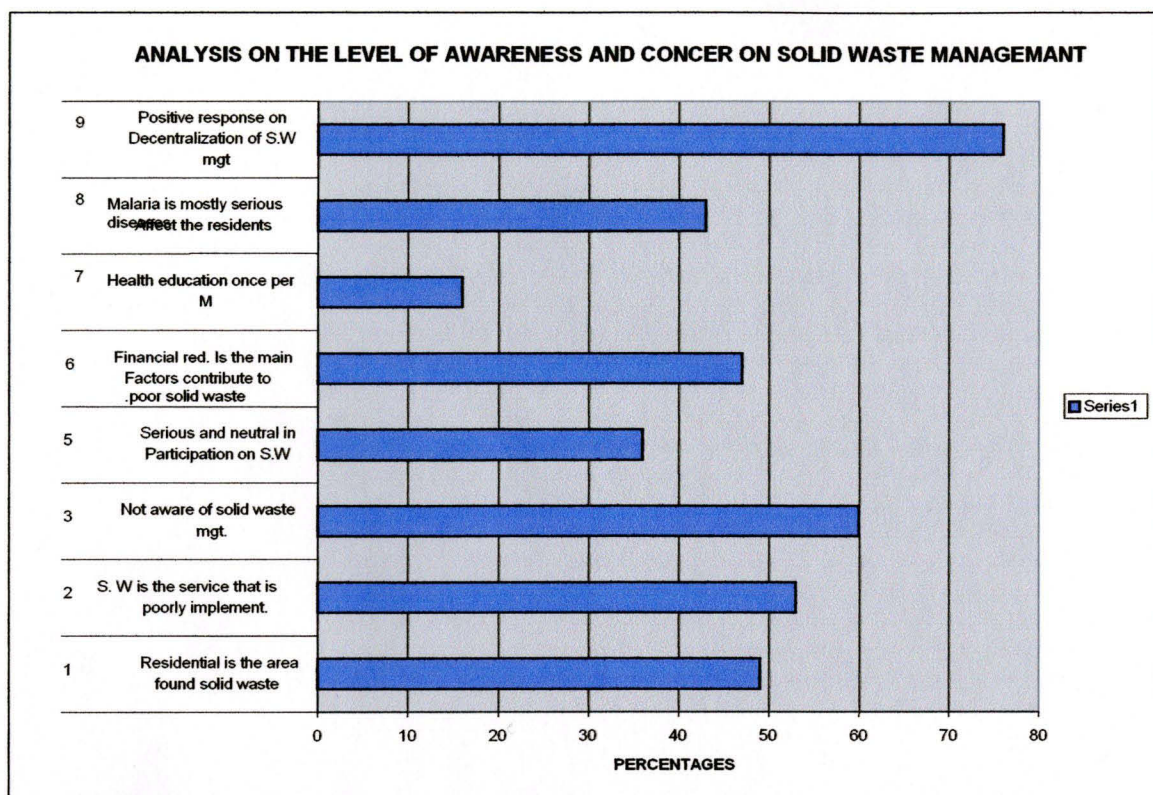
**Table 7e: Respondents perception on disease prevalence in Korogwe township**

Diseases	Number of respondents				
	Household	Key Informants	CBO	Total Score	% age
Malaria	80	10	0	90	43
Diarrhea	40	9	0	49	26

Source: Field data 2004

Probing on likely causes for infectious diseases, revealed that poor environmental sanitation is one of the main underlying causes for malaria and cholera prevalence.

The level of community awareness and concern on solid waste disposal is shown in figure 4.



**Figure 4: Level of awareness and concern on Solid Waste Management in Korogwe Town council area**

Results in figure 4 show that 76% of respondents were of the opinion that decentralization of solid waste activities is an important element in improving solid waste management. However 60% of the respondents had not been sensitized on solid waste management. 53% agreed that Korogwe Town Council has poor performance in implementation of solid waste disposal. A proposition to decentralize solid waste management system to the community was accepted by most of respondents. Whereby 42% strongly agreed, 39% agreed and 19% were not sure while 5% disagreed. Therefore, the majority of the population accepts the idea of decentralization of solid waste to the community.



### 4.3 Waste management projects present in Korogwe township

The stakeholder categories and status of projects (with respects to funding organizations) present in the area under study are shown in table 8. There is no any waste management project operating in the area with the exception of health department. Even there it is only limited to day to day sanitary activities.

**Table 8: Stakeholders and categories of Waste Management Projects present in Korogwe township**

Project category	Number of respondents				
	Households	Key Informants	CBO	Total Score	%
<b>Donor funded</b>					
Present	52	18	6	52	12
Not present	172	38	24	234	54
Not sure	134	4	12	150	34
<b>Total</b>	<b>358</b>	<b>60</b>	<b>42</b>	<b>436</b>	<b>100</b>
<b>CBOs concern with solid waste management</b>					
Present	204	30	0	234	59
Not present	70	24	0	94	24
Not sure	60	6	0	66	17
<b>Total</b>	<b>334</b>	<b>60</b>	<b>0</b>	<b>394</b>	<b>100</b>

Source: Field data 2004

Result in table (8) shows that 54% of the respondents reported that there is no any solid waste project funded by donors, 34% were not sure, while 12% reported presence of donor funded project. Responding to the existence of CBOs which show concern on solid waste management 59% responded positivelz, 24% disagree, while 17% were not

sure. In analyzing the situation, Baraka Bahati is known by the majority through its concern on environmental sanitation. The group needs to make more effort in working with community in order to improve the solid waste system in Korogwe Town Council.

#### **4.4 Storage and collection of solid wastes**

Household waste is generally stored in or near the household in locally available containers such as baskets and buckets until collection day (Table, 9). In Korogwe Town Council area, this is scheduled to take place once per week although some areas do not receive collection services up to three weeks or more. In certain parts of Kilole and Mtonga areas residents make use of unauthorized dumps that are periodically cleared by health department. Refuse pits are used extensively in a low-density areas than in high density population area.

Korogwe Town Council dumpsite is located five Kilometers from the Township center. The town council authorities expressed their view on the urgent need to improving the dumping site. There is one old refuse truck and one old tractor that is incapable of collection of all waste generated.

On the other hand Korogwe dumping site is completely uncontrolled. There is no house for staff, not fenced, not surveyed. The site is very close to the residents if no urgent interventions are to be taken to improve the site, then there is a potent danger to in

increase health hazards to households located on the vicinity of dumping sites. Also, increased risks of water borne diseases in the entire township.

**Table 9: Storage system and collection of Solid Waste in Korogwe Township**

Storage system	Number of respondents				
	Household	Key Informants	CBO	Total	% age
Household pit	122	0	0	122	37
Bucket	70	0	0	70	20
Collecting dumping sites	90	0	0	90	27
Thrown anywhere (tipping)	52	0	0	52	16
<b>Total</b>	<b>334</b>	<b>0</b>	<b>0</b>	<b>334</b>	<b>100</b>
<b>Number of communal storage sites</b>					
One to ten	124	23	0	147	75
eleven to fifteen	24	4	0	28	14
Sixteen to twenty	19	3	0	22	11
<b>Frequency of solid waste collection</b>					
Once per week	138	0	0	138	41
Twice per week	106	0	0	106	31
After two weeks	22	0	0	22	8
Never collected	68		0	68	20
<b>Total</b>	<b>334</b>	<b>0</b>	<b>0</b>	<b>334</b>	<b>100</b>

Source: Field data, 2004

Results in table 9 shows that 37% of respondents use household pit, while 20% use plastic sacks or buckets. 27% of respondents use collective dumping sites in their area while 16% of respondent agreed that are throw away the waste anywhere. 75% responds reported that there are no collective dumping sites in their areas. However, there are about one to ten collective garbage storage sites per each location. In these storage sites

is where wastes are held before transportation to the disposal sites. The Health department has successfully abolished the unauthorized dumping sites. Reporting on the rate of refuse collection from storage sites; 41% respondents said that solid waste was collected once per week, 31% said that collection is effective twice per week. There is increasing local concern from different areas in the township, over the increase in the quantity of waste especially increasing quantities of plastic bags and containers. This waste is noticeable almost everywhere in Korogwe Town Council.

The results in this study show that most of respondents use household pit for waste storage, and only a small proportion of respondents use bucket or plastic sacks for solid storage. This means that waste collection services are poor. Although health authority succeeded to abolish unauthorized collective dumping sites, the problem still exists since the community uses household pits. Low level of awareness on hazards associated with wastes and lack of practical alternatives has resulted into use of untreated household pits and haphazard dumping of wastes, especially plastic bags. The situation can be improved if the community, through community based organizations, takes part in solid waste management service.

#### **4.5 Volumes of solid wastes generated in Korogwe Township**

The Town Council report shows that, at present, about 11,800 kilograms of solid waste were produced per day as follows, residential areas (3,000 kgs), market place (7,000 kgs), restaurants (800 kgs), other commercial sector (500kgs) and road (500 kgs). Out

of this amount only 7000 kgs of waste were collected per day. This leaves about 4800 kgs of garbage remaining uncollected. The amount of solid waste generated in Korogwe township is presented in table and 10 figure 5.

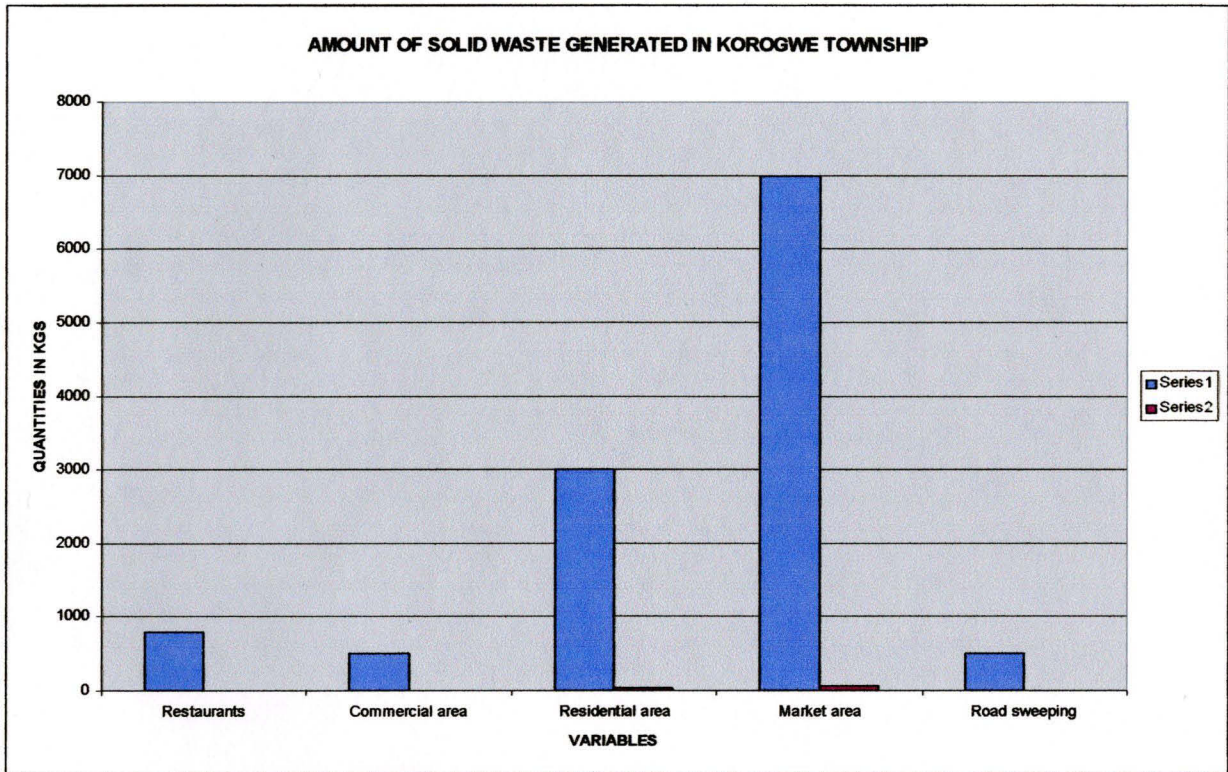
**Table 10: Quantities of solid waste generated and collected in Korogwe Township**

Source	Amount of solid waste in Kg		
	Amount	Total amount	% age
Restaurants	800	800	7
Commercial area	500	500	4.5
Residential area	3,000	3,000	25
Market area	7,000	7,000	59
Road sweeping	500	500	4.5
<b>Total</b>	<b>11,800</b>	<b>11,800</b>	<b>100</b>
<b>Garbage Collection</b>			
Quantities collected per day	7,000	7,000	51
Quantities remaining uncollected	4,800	4,800	49
<b>Strategies for disposing the remaining garbage</b>			
Burned	20	20	33
Buried	30	30	50
Thrown anywhere	10	10	16
<b>Total</b>	<b>60</b>	<b>60</b>	<b>100</b>

Source: Field data 2004

Figure 5 shows that 59% of solid waste is generated in market place, followed by residential area 25%. The results indicates that the only a small amount of waste is produced in commercial areas (5%), restaurants (7%) and road sweeping (5%). The results in table 10 indicate that the amount of solid waste collected is less compared with the amounts generated. This is because the solid waste collection vehicle is too old

and sometimes is not working due to regular breakdowns. Figure 5 shows that the amount of waste collected is about 51% of total amount generated in the study area, and the remaining uncollected account to 49%.



**Figure 5: Amount of solid waste generated in Korogwe Township area**

The Town Council needs to enhance the collective effort in order to improve solid waste management status. The Local Government is for the time being meeting the full cost for waste disposal service provision. That is the service is provided as a public service. By using this approach there is no any cost recovery measure which is undertaken. For example, monthly fee charged to each household as waste collection service. This is probably one reason why solid waste management service is poor. That

is to say the local authority is unable to recover the cost for the service. Moreover the local Government is facing financial constraints. For example, the financial contribution from central Government during the fiscal year 2003/2004-health department budget was T.Shs 156, 000, 000/= millions per year. Out of this only TShs 66,000,000/= million was budgeted for the improvement of waste disposal which is 35% of the total budget. The actual amount they receive is 57, 000,000/= per year (KTC Health Report, 2003).

#### **4.6 Legislation and law enforcement**

There is at present no any council by- laws regulating solid waste management activities in Korogwe township. Currently the Town council authority makes use of certain part of the Public Health Act enacted by the Central Government. This however does not afford the council adequate powers to deal with issues related to waste management. During time of this study there were reported about ten instances that have lead to prosecution of those who were posing public health hazards through improper handling and dumping of solid waste. The Town Council has now already prepared a draft legislation that is expected to provide adequate powers to local authorities to deal with waste management issues. However, there is weakness in preparation of these by laws. In that, the general public did not sufficiently participate in the process of drafting the by-law. The results in table 11 show that 39% of respondents were aware of legislation and enforcement of regulations governing management of

solid waste, while 34% were not sure. Only 27 % respondents said that they are aware of regulations governing disposal of solid waste.

**Table 11: Legislation and enforcement of solid waste regulations in Korogwe township**

Awareness of by-law	Number of respondents				
	Household Heads	Key Informants	CBO	Total	% age
Yes	90	18	0	108	27
No	128	26	0	154	39
Not sure	116	16	0	132	34
<b>Total</b>	<b>334</b>	<b>60</b>	<b>0</b>	<b>394</b>	<b>100</b>
<b>Enforcement effective</b>					
Yes	30	2	0	32	23
No	56	18	0	74	53
Not sure	16	18	0	34	9
<b>Total</b>	<b>102</b>	<b>38</b>	<b>0</b>	<b>140</b>	<b>100</b>
<b>Community participate in making by laws</b>					
Yes	16	18	0	34	9
No	306	18	0	324	82
Not sure	10	26	0	36	9
<b>Total</b>	<b>332</b>	<b>62</b>	<b>0</b>	<b>394</b>	<b>100</b>
<b>Laws effective</b>					
Yes	2	2	0	4	6
No	2	18	0	20	28
A few members	12	34	0	46	66
<b>Total</b>	<b>16</b>	<b>54</b>	<b>0</b>	<b>70</b>	<b>100</b>

Source: Field data 2004



There were no any responses if the laws matched with present situation since high percentage of respondents were not aware of the council by-laws. Preparation of the by law through Public participation showed that 82% were not participating and 9% were not sure. Responses on the existing law on public health from Ministry of Health if it helps in control of deviant behavior, only 6% agree, 28% disagree and 66% agreed that for few members especially for business centers like restaurants and commercial areas, this law will deter polluters.

#### **4.7 The capacity of the CBO to provide solid waste management services.**

Results of the survey in table 13 show that majority of respondents (53%) agreed that a CBO could be effective in the delivery of solid waste management services. The minority (20%) disagree, while 27% of the respondents were not sure.

**Table 12: Response distribution on the capacity of CBOs to improve solid waste management in Korogwe township**

Effectiveness	Number of respondents				
	Household heads	Key Informants	CBO	Total	% age
Very effective	200	20	12	232	53
Not effective	58	20	10	88	20
Not sure	76	20	20	116	27
<b>Total</b>	<b>334</b>	<b>60</b>	<b>42</b>	<b>436</b>	<b>100</b>

Source: **Field Data 2004**

Since the role of CBOs is to enabling the community design programs, monitoring implementation and evaluation of activities through available resources like human effort, financial resources etc. the community has to be mobilized in order to fill the gaps explained above. That is different stakeholder to show the concern and look for the funds as additional support of what the Government incur to the solid waste management. By doing so the people will be able to store solid waste bins, improve the dumping sites, increase working tools like collection vehicles, and finally the number of communal dumping sites will absolutely be eroded.

Results in table 13 show the willingness of community members to contribute to solid waste disposal services. The majority of respondents 63% are willing to contribute to solid waste collection costs. However, only 17% of respondents were paying waste collection fees. The result implies that the high enthusiasm to contribute to solid waste management costs may bring about dramatically improvement on the environmental health status. But it is unlikely that low-income groups will be prepared to pay for such service, due to poverty other than the willingness to pay.

Since the community members are willing to participate and highly motivated in participating in solid waste management and health improvement it is possible for incorporating CBOs in the solid waste management in Councils solid waste management system.

**Table 13: Respondents willingness to contribute to solid waste disposal costs in Korogwe township**

Paying waste disposal fees	Number of respondents			
	Household heads	Key Informants	Total	% Age
Yes	72	40	112	17
No	210	0	210	63
Not decided	52	16	68	20
<b>Total</b>	<b>334</b>	<b>56</b>	<b>390</b>	<b>100</b>
<b>Willingness to pay fees</b>				
Yes	218	28	246	63
No	74	18	92	23
Not sure	42	14	56	14
<b>Total</b>	<b>334</b>	<b>60</b>	<b>394</b>	<b>100</b>

Source: Survey data 2004

The results in table 14 show the respondents opinion on how to improve solid waste collection services in Korogwe township. 42% of respondents indicated that participation is the most important part for the improvement of solid waste system in area under study

**Table 14: Responses distribution on ways to improve solid waste management system in Korogwe township**

Opinion	Number of respondents				
	Household heads	Key Informants	CBO members	Total	% age
Using by laws	64	12	10	86	12
Community participation	228	48	20	296	42
Provision of solid waste bins	104	20	12	136	19
Increase solid waste budget	46	2	8	56	8
Improve solid waste tools	110	12	12	134	19
<b>Total</b>	<b>554</b>	<b>84</b>	<b>62</b>	<b>708</b>	<b>100</b>

Source: Field survey (2004)

This was followed by provision of solid waste bins and increase solid waste budget by Korogwe Town Council. 19% proposed for increase solid waste bins and another 19% for improvement working tools, 12% proposed for using by - laws and 8% to increase solid waste budget. The results show that only a minority were in favor of applying the cohesive by –laws and increase solid waste budget. This is an indication that the majority of respondents were willing to participate in solid waste management.

## **CHAPTER FIVE**

### **5.0 CONCLUSION AND RECOMMENDATION**

#### **5.1 Conclusions**

Despite the effort made by the Government to improve the living standard of people both socially and economically, there is a need for stakeholders' collaboration. This is because the Government is unable to bring total change for betterment due to limited resources and budgetary constraints. In this case therefore, all stakeholders should take responsibility for bringing developmental changes in Tanzania. Likewise, the government reform system in Africa should look on the governance roles of the states in society. This must aim at ensuring that the public, private and community sectors take part in the management of the societies as a whole. This must not only examine the formal structures of the Government but also the informal structures created by society like the CBOs, Local NGOs and Civil Associations.

The above argument if extended to the case under study it implies that the country should set a mechanism that will ensure that both public and private sectors were involved in solid waste management in the municipalities, major towns, and growing townships like Korogwe. This will provide an opportunity for the exchange of management skill and technology in the area of solid waste management. Likewise, the broad objective of the study was to identify the prospects for community to participate

in Korogwe Town council's solid waste management system. This can to a large extent be facilitated by the policy instruments at the central government level.

The policy to tackle the problem should encompass some dimensions of proper institutional arrangements that will ensure full participation of stakeholders. Effective participation entails providing a forum that will bring various stakeholders for discussions as equal partners. (O'Leary, P., and Warsh, W., 1995) assert that the participatory process should start at the community level discussions aimed at identifying, planning, prioritizing, implementation, monitoring and evaluation of development programs.

As such there is a need for joint efforts for the solid waste management by participation of all stakeholders from storage, transport to the final disposal through planning implementation, monitoring and evaluation. These local institutions that are key partners in a participatory process for solid waste management include the community, village government, schools, colleges, community-based organizations and political parties for community mobilization.

## **5.2 Recommendations**

Basing on the findings of the study the following are recommendations.

### **5.2.1 Recommendation on community participation in solid waste management system in Korogwe Township**

Underlying assumption is that, community participation has a potential role in any development project particularly in waste disposal. Recurrent costs for operating the centralized and decentralize solid waste management system are significantly different. The decentralization of solid waste management to communities will operate at a low cost than the centralized solid waste management system. Despite the fact that the resources are scarce community participation could be sustainable if adopted in the solid waste management system in Korogwe Township. It could be wiser if the community take part in the solid waste management system. Private sector and Community Based Organization can be the partners in the process so as to minimize the Government costs, However, participation of the general public in the solid waste management is not enough if the public is not well sensitized on the solid waste management. There is a need for effective education program, which will make the people aware, build interest, to participate in decision making.

The study results have demonstrated that the respondents were positive on the proposition for decentralization of solid waste management system to community. The general expectation was that this measure could improve the situation. The study also revealed that there is low level of awareness and concern on solid waste management system to the majority of the respondents in Korogwe township. However, participation alone is not likely to achieve the high level of service delivery. Other factor like

community awareness, resources and capacity enhancement are also likely to play a crucial role for successful community participation.

### **5.2.2 Recommendation on the CBOs facilitation role on community participation in solid waste management**

In Korogwe Town Council there are 14 NGOs operating in different sectors, but they are not active in the field of solid waste management. Most of these organizations concentrates in HIV/AIDS, agriculture, provision of social services, provision of credit to the poor, and environment. The NGOs tend to be active in the area of skills training and business support. There is only one CBO that is involved on solid waste management, Baraka Bahati 2000 – which is a focus of this study. The CBO members were involved in cleaning services on the market places, where they are contracted on daily basis, by small business entrepreneurs. A certain percentages earned is supposed to be paid to the Town Council. It has been observed that the Local Government, in Korogwe, alone is not capable of implementing solid waste management project properly. Community based organization are considered the best alternative agencies for service delivery. Community based organization are grassroots oriented which starts from identifying community needs and take them to planning machinery.

In Korogwe all waste management is currently the responsibility of Local Authority under proposed Health Management Act. Health reform system in the local authority allows all stakeholders to participate in solid waste management services. Recently some of solid waste service is contracted out to private companies like market area, bus



stand, and external environment of the District Hospital. These private companies and CBO have their expectation on the incentives they expect to get, and even Korogwe Town Council.

At present there is a general realization that the private sector involved in public sector service delivery, could lead to more efficient and cost efficient service delivery. This suggest that awarding contract to private sector rather than Town council level and instituting cost recovery by relating payment to performance level must be considered. At present Baraka Bahati 2000 is the first organization which is involved in environmental protection and sanitation in Korogwe Town Council. It qualifies for award of solid waste collection contract. This recommendation derives from the fact that; the CBOs activities in regard to environmental conservation and environmental sanitation are well proven, in the township. Therefore there is a need for facilitate and enhance the capacity Baraka Bahati 2000 to develop a community based solid waste project in Korogwe township

### **5.2.3 Recommendation on legislation and enforcement of regulations for system in solid waste management in Korogwe township**

Currently there is no specific Local Authority by-law on waste management in Korogwe township. With lack of legislation there are little enforceable waste management standards. Any enforcement that does exist is provided Public Health Act

and is enforced by Local and Central Government Authorities. The Town Council has already prepared draft by-laws that it hopes will provide adequate local Authority to deals with waste management issues.

In discussing the situation and the study results in table 13, the law and legislation concerning with waste management is not active. The situation is worse as community participation and general awareness of drafted by laws is not sufficient. The Public Act under health Ministry laws is not well matching with real local situation. This means that the solid waste management system regulatory framework is inadequate. Community participation in making by laws on waste will be of great importance, in order to increase efficiency in solid waste disposal services. This could be improved the stakeholders at grassroots, including the community members and if the existing community-based organization were involved in the process of drafting the by-laws for regulating solid waste management

#### **5.2.4 Recommended ways to incorporate the CBOs in the solid waste management system in Korogwe township**

It has been for a longtime falsely perceived that solid waste management service is the responsibility of the central government through the Local Government. This perception limits the spirit of other stakeholders in participating in solid waste management. It has been revealed by this study that the Community is ready to participate in solid waste

management in Korogwe Town council. Since the community members are highly motivated and willing to participate in solid waste management and health improvement it is recommended to incorporating the CBOs the Korogwe Town Councils service delivery with regards to solid waste management system. The incorporation of private sector could help to improve the efficiency in service delivery in Korogwe Town Council. The following are recommended as the best ways to incorporate CBOs in solid waste management include in the area under study:

**5.2.4.1 To organize stakeholders meeting to discuss the problem of solid waste management.**

The meeting will help to identify different stakeholders concerning with waste management. Responsibility will divide accordingly. Through this the risk of infectious diseases transmission of diseases like malaria, and diarrhea will be reduced.

**5.2.4.2 To develop a mechanism for financing and recovering the costs for solid waste management.**

For the time being the local Government meets the full cost of public service provision. However, the full cost is not recovered by means of monthly charges form the household. That is why solid waste management service became poor due to local authority inability to recover the cost for the service. Findings on financial contribution from central Government during financial year 2003/2004 the health department expected to get T.shs. 156,000,000/= million per year but it only received

57,000,000/= per year. The budget received is 35% of the total budget expected. The budget for the solid waste budgeted 66,000,000/= T. shs. In order to make up for the budgetary deficiency there is a need for monthly contributions from the Korogwe Township residents in order to cover the cost gap. Financial support from different donors could also serve the additional purposes for improving solid waste management in township.

#### **5.2.4.3 Awarding contractual basis to private sector, NGOs, and CBOs.**

For the Town Council to fulfill its mission of improving people's health by 2010, there must be a clearly reliable fee collection system. This is to ensure that the waste can be readily deposited to the dumping sites. It is important that the local authority collect all the waste generated in the community. Lack of financial resources limits the process. The need for community-based organization comes in facilitating proper waste collection and delivery to the dumping site

#### **5.2.4.4 Awareness rising on health and environmental issues in Korogwe township**

If the need of the solid waste management is to be perceived, there must be an awareness rising on health and environmental issues. It is therefore necessary to establish the strategies for the community participation on solid waste management system in Korogwe Town Council. Ideally the decision-making should be made at the local level rather than be part of central government structures. This could be effective

if this role devolved to community based organization and community associations at the grassroots. Thus the CBOs should be incorporated in the system for the improvement of solid waste management in Korogwe Town Council.

#### **5.2.4.5 Approaches to Implementing the Recommendations**

Basing on survey results it is most apparent that community participation in solid waste management bears the highest prospects for improving service delivery with regards to solid waste disposal in Korogwe township. The respondents have expressed high enthusiasm to participating in the program as a measure to improving the environmental health in the area. This approach also has the potential to increase local financial resource to the town council. It is clear that the council is considering many possible alternatives for waste handling including the use of recycling and composting program but these need large amount of financial resources.

Therefore the study recommends the following implementations as measures for introducing the community based solid waste management system in Korogwe Town Council :

- **Building a Forum of Stake holders:** Community participation in solid waste management should be given the high priority through collaboration with all stakeholders from community, central and local government, civil societies,

community based organizations, politicians and local and International Organizations.

- Awareness raising campaigns: Community awareness raising, mobilization and sensitization in solid waste management system is the foremost factor which could set in motion the process for implementing community based solid waste system .
- Reform the Institutional Framework: The Town council should make arrangement to decentralize solid waste activities to community, private sectors and NGOs.
- Fund raising: All stakeholders should make effort to solve the problem of solid waste through local available resources and whenever possible looking for financial assistance from, central and local Government, private sectors, local and International organization to supplement effort made by the community to improve solid waste management in Korogwe town council.
- Introduction and Enforcement of Environmental Standards: The council should introduce by-laws on waste management and stakeholders should participate in making these by laws.
- Promote participation of Private Sector in Delivery of Public Services: Private sectors and CBOs should participate in the Town Council solid waste management on contractual basis on looking for donor support in solid waste management.

### **5.3. 1 Recommendation for Project Implementation**

The author has selected fund rising activity for project implementation. The recommended implementation is aimed at enhancing the financial capacity of the local CBO that has expressed high concern and initiated measures for environmental management in Korogwe township. This has opened the room for Baraka Bahati 2000 to develop the proposal for the community based solid waste management system. As a starter fund, a project proposal for funding amounting to TShs 71.900.000.00 was developed in participatory with Baraka Bahati 2000 members.

## CHAPTER SIX

### 6.0 IMPLEMENTATION OF RECOMMENDATION

#### 6:1 Executive Summary

**Project Title:** Community Based Solid Waste Management System in  
Korogwe Town Council.

**The Contact Person:** “The Chairperson, Baraka Bahati 2000, P.O. Box 220,  
Korogwe Tanga. The Telephone Number is 0744512500.

**The Proposal is Submitted by:** Lauwo Hilda Abel,

#### **Problem Statement:**

The research findings depict the poor participation among stakeholders on solid waste management. It is suggested that decentralization solid waste management and stakeholders collaboration in solid waste management in Korogwe Town Council is very important

**Target Group:** Community residing in Korogwe Town Council, others are  
CBOs, FBOs, CSOs, private sectors, Local and Central  
Government, Local and International NGOs.

#### **Activities:**

Awareness raising and capacity building of stakeholders, community protection of solid waste disposal and provision of solid waste tools



**Expected Results:**

Increased awareness on solid waste management functioning of structures, by laws on waste management will be enhanced

**Request for funding:** United Nations Development Program Tshs 79.000,000/=

**Our Contribution:** Tshs 3,700,000/=

## **6.2 Background and Justification**

Basing on survey recommendation that community should participate in solid waste management in the town council, collaboration of all stakeholders is of highly important. These include Government (Central and local), community, Civil societies, Community Based Organization and NGOs local and International. For the efficient of solid waste management performance in the Town Council, collaboration of stakeholders should be part of better implementation of solid waste projects. Baraka Bahati 2000 group is among the stakeholders who wants join the effort of solid waste management improvement. the following information justify the willingness of the group to support the effort made by the Town Council in this activity.

Korogwe Town Council is one of the Council in Tanga Region, other include Muheza, Handeni, Pangani, Lushoto, Korogwe District Councils and Tanga Municipal. People in Korogwe undertake activities such as farming of paddy, maize, beans, small industrial, and agriculture and livestock keeping. Korogwe Town Council has four Ward known as Korogwe, Ngombezi, Kwamndolwa, and Magunga Msambiazi. Korogwe Town Council is well known as the new Town formed by the Government since February 2003. The Township faced with a big problem of solid waste management system. The township challenged with this problem since it receive a lot of complaints. The main cause of the problem is lack of facilities for solid waste collection services like vehicles for the collection of solid waste, financial constraints. The township has one old vehicle,

which is incapable for the amount of solid waste produced per day. The vehicle maintained with a high cost that makes the amount provided for the solid waste collection to be insufficient. The area also is located on the highway from 300 kilometers from Dar-es-salaam to Arusha and Nairobi. Therefore the movement of people is very high which increase the volume of the solid waste produced. Apart from the money coming from the Government, and local collection the Town Council will not be able to cover the cost of the solid waste disposal in near future. One of the weaknesses on the solid waste services in Korogwe Town Council is the poor participation of people in solid waste management. If the people take part in the process of solid waste management system the cost for the activities will be minimized. There is a need, therefore, for the Local Government to introduce the system of people's participation in solid waste management.

There have been efforts by NGOs, Government and other stakeholders to help people improve their social economic conditions through provision of social infrastructures such as roads, health centers, schools, supporting various economic activities, awareness raising on HIV/AIDS pandemic etc. Despite these efforts the level of poverty in the area is still high and poverty is a major driving force for poor solid waste management. Others are:

- Lack of awareness raising and sensitization
- Quality of solid waste services not meeting the present demand.
- The social economic impact of infectious diseases, like malaria, and diarrhea.

Korogwe Town Council have benefited from various effort by the Government (Health department) and other, which focus mainly on awareness raising which focus mainly on health issues. The Town Council has made effort on waste collection and disposal of solid waste. However, this alone has not resulted into significant quality service. This is justifiable from the fact that apart from communities and other stakeholders understand the negative impact of unsafe environment very little was done to put in structures permanent in overseeing issue related to solid waste management, providing alternatives to people so that they can deal with sanitation activities; low capacity of local NGO/CBOs and other actors to deal with solid waste management system. Finding of the survey on prospect for solid waste management system reveal that, community participation, awareness raising, mobilization and sensitization, in solid waste management should not be given high priority. However the decentralization of solid waste management to community was insufficient. Solid wastes by laws exist, but the community did not participate in making them. This finding reveals that there was not any solid waste project in Korogwe Town Council before, thus the responsibility of waste handling are now within the Local Council. Malaria is the first infectious disease affects the lives of majority in Korogwe Town Council. In view of the need to build capacity of local partners to deal with solid waste management in the area local NGO known as Baraka Bahati 2000 in the fight of environmental sanitation is proposing to undertake the program intervention in Korogwe Town Council that will aim at addressing environmental sanitation issues from two major fronts direct support

community solid waste bins and build capacity of different actors in the area to address solid waste issues and mobilizing community for the same.

Baraka Bahati 2000 has been actively involved in environmental sanitation in Korogwe Town Council. The primary target group for Baraka Bahati is community. Baraka Bahati 2000 will use its varsity experience to mobilize community for addressing people felt needs in tackling the problem of solid waste in Korogwe Town council. To achieve this objective Baraka Bahati 2000 will embark first on mobilization and sensitization in Korogwe, putting in place structures for fighting environmental sanitation. These include strengthening health, education and water committee, enacting by laws on wastes, supporting community with waste bins.

Being the local NGO will collaborate with other existing programmes on health improvement, education with a view to form synergy as well as to compliment each other. In this way capacity of Baraka Bahati 2000 and other local CBOs/NGOs will be enhanced.

### **6.3 Description of the Study Area**

Korogwe Town is located in Korogwe district Tanga Region in the Northern part of Tanzania. The township covers an area of 1800 hectares or 18 kilometers and is situated in the central part of Korogwe District. The town is located on the slopes of Usambara mountains between 900-1900 meters above sea level. It has a moderate tropical climate.

its boundaries are sloping land to the South, from Fundi hills in the North, and down to the Pangani river valley; from here it rises to the hills found in the Southern part of the town. The highest point at the peak is 1900 meters above sea level. The Usambara mountains with their montane forest form a background to the town making it visually attractive. The Pangani river drains the town and it is the most important river in the Region, rising from the Kilimanjaro Mountain and running through to Indian Ocean.

The Town Council area is divided into four zones which includes: cool highland areas with annual rainfall of 1000-2000 millimeters a year, and wet lowland areas with rainfall of 800-1000 and the arid warm lowland with an average of annual rainfall bellows 800 mm.

### 6.3.1 Administrative structure

The Town Council is divided into four Ward with the total of 17 villages. The population of a Township during 2002 census was 54,457, the number of household was 23038. Korogwe Township Administrative Units, Population and Number of Household

**Table 15: Human Population in Korogwe in 2003**

WARD	VILLAGE	MALE	FEMALE	TOTAL	HOUSEHOLD NUMBER	AVERAGE SIZE
KWAMNDOLWA	5	2863	2939	5802	1332	4.4
KOROGWE	5	16401	17754	34155	7517	4.5
NGOMBEZI	4	2343	2343	4959	1208	3.9
MSAMBIAZI	3	4770	4763	9541	2108	4.5
<b>TOTAL</b>	<b>17</b>	<b>26377</b>	<b>27799</b>	<b>54457</b>	<b>23038</b>	

Source. National bureau of Statistics (National Census, 2002)

### 6.3.1.1 Economic status

The dominant sector of employment is agriculture which account to 61 percent followed by commerce with 13.3 percent of active labor force.

**Table 16: Employment Distribution Per Sector In Korogwe Township**

<b>SECTOR OF EMPLOYMENT</b>	<b>PERCENTAGE</b>
Services	10.5
Construction and Manufacturing	5.5
Commerce.	13.3
Electricity and water supply	3.6
Transport and communication	6.2
Agriculture	61.0
<b>Total</b>	<b>100</b>

**Source: Korogwe Town Master Plan 1985-2005.**

### 6.3.1.2 Social Economic Status

The main ethnic groups in Korogwe Town council are Smbaa, Zigua and Bondei. In the central part there are mixed tribes. The inhabitant of the Town Council depends on the agriculture and livestock. The major crops are maize, cassava, bananas, vegetable and fruits. Cash crops grown include sisal, cotton, and cashew nuts. Animal husbandry is also practiced, which include cattle, goat, sheep and poultry. There is a small-scale fishing done individually for home consumption in river Pangani. The majority of women are engaged in agriculture activities for their food and cash crops. The men are mostly involved in small business ventures.

#### 6.4 Problem Statement

Solid waste disposal is a problem all over the World since the volume of solid wastes produced is not proportional to the amount being collected. This is due to insufficient facilities and inability to collect the total amount of wastes generated. According to Conference on Planners Assessment of Urban Environmental Problem (1996), relative to household garbage collection, the problem relates to inadequate or non-collection. Studies have shown that around 30- 50 percent of solid waste produced within the urban areas in developing Countries are not collected. For example “ In Dar es Salaam City in Tanzania about 65% of solid wastes are not collected. While in Nairobi Kenya newly developed residential estates and the informal settlement are not served by the city garbage collection services. (DESIP, 1996) Shinyanga Municipality in Tanzania generate about 80 tones per day of solid waste from different sources, but only 40% tones of wastes are collected per day (Shinyanga Municipal council, 2000). The finding reveal that Korogwe Township generates 11,800 kilograms of solid waste from different sources per day including residential houses, commercial premise (hotels/restaurants and market places) industrial establishments, institutional areas and offices. Out of waste generated only 7,000 kilograms collected per day that is only 51% of waste generated. This is according to prospects for community participation on solid waste survey (2004) results.

The Town Council has one- garbage old collection truck and a tractor, which have inadequate, refuse collection capacity. Its capacity is about 20 tones per day, and



accounting to about 20% of wastes generated. About 50 tones of waste are left uncollected.

In high density burning or dumping in pits dug by residents themselves either disposes residential and commercial areas management of solid waste. Hospital waste that is regarded as hazardous waste is disposed of through incinerator at the District hospital, however the management of the incinerator has also proves to be problematic. Small-scale and medium health units' wastes are being burnt on open-air ground. Uncollected solid waste in Korogwe Township is potentially an environmental hazard especially during rain seasons when the street drainage systems is blocked and cause rain water running into streets. This may cause outbreak of infectious diseases like cholera. The amenity of the builds up also lost due to garbage left to decay in open ground areas, crude dumping sites that provide breeding ground for flies. In addition, some of the areas especially in New Korogwe are subject to chronic flooding due to blockage of drains by domestic waste (Ardhi Institute, 1986).

Lack of designated dumping sites, inadequate solid waste collection has lead to indiscriminate dumping of solid waste in undesignated areas. Some people particularly in sisal plants dump the sisal processing by product in Pangani River. Also some of residents living along this river dispose the solid wastes in the river. This is posing a serious risk of the river pollution taking into account most people in Korogwe

Township depend on water from the river for domestic purposes. Table 2 (annex 3.b) shows the solid waste disposal system in Korogwe Township

The Korogwe Town Council has also facing financial constraints. The budget allocated by the government is not enough to cater for the growing needs of solid waste management system in Korogwe Township Authority. This is being evidenced by survey undertaken in December 1986 by Ardhi Institutes. There are experienced shortages of fuel and breakdown of the truck rendering the system increasing inefficient. (POPIN and World Bank 1996) Shows that alternative system has to be devised which can cope with the amount of solid waste that is generated now or to be generated in future

Despite of the effort made by the Korogwe Town council to collect the solid waste the situation need urgent interventions to improve the efficiency of the solid waste disposal particularly through participation of stakeholders in the solid waste management system. The main purpose is to establish the potentials and modalities for community participation in solid waste management in Korogwe Township. Burning or dumping in pits dug by residents they either disposes management of solid waste. Hospital waste that is regarded as hazardous waste is used to be disposed of through incinerator at the District hospital, however the management of the incinerator has also proves to be problematic. Small-scale and medium health units' wastes are being burnt on open-air ground. Uncollected solid waste in Korogwe Township is potentially an environmental

hazard especially during rain seasons when the street drainage systems is blocked and cause rain water running into streets. This may cause outbreak of infectious diseases like cholera. The amenity of the builds up also lost due to garbage left to decay in open ground areas, crude dumping sites that provide breeding ground for flies. In addition, some of the areas especially in New Korogwe are subject to chronic flooding due to blockage of drains by domestic waste. (Ardhi Institute, 1986).

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## **6.5 Programme strategies**

### **6.5.1 Awareness raising and capacity building of stakeholders**

Intensive awareness raising and capacity building on solid waste of people, local leadership, and other stakeholders in Korogwe Town Council will be done in various ways including meetings, sensitization seminars, and dissemination awareness rising and advocacy material of solid waste needed. Baraka Bahati 2000 will sensitize villagers and assist them to strengthen structures for addressing solid waste management system. These include capacity enhancement through training, health and water committees in Local Government structures, by laws on solid waste management and mainstreaming solid waste activities in the village development The group intends to set up the program in order for the community to provide and be provided with the information concerned with the environment. The group specific need for this activity fall into two categories: information dissemination and materials. Information dissemination is for brochures, videos and cassettes and, films and drama groups. This will help to disseminate the information program.

Effort will also made to link up with programme if any focusing on solid waste issues, like World vision, RUDECT, focusing on rural development and environmental sanitation in Lushoto and Muheza District.

#### **6.5.2. Community protection of solid waste disposal**

In collaboration with village Government Baraka Bahati 2000 will identify areas with condensed population for waste bins support. Identified areas will classified according to geographical position and requirement for mainstreaming them into village council programs as a high-risk area. Baraka Bahati will link up with The Council health department as the programme in the process of identification; categorizing and providing them waste bins. The program makes easier recycle on community by working close and provides the information necessary for the process. The group intends to purchase recycled materials whenever possible. The group will access the group effort to community solid waste collection fees, and the amount needed to be retained by the community for sustaining the process. The group physical need is the administration and makes proper care of the recycling bins.

### **6.6 Target Group**

#### **6.6.1 Direct Beneficiaries**

Community residing in Korogwe Town Council in 2 Wards (Korogwe and Magunga Msambiazi) where solid waste collection is undertaken will be the primary target for the project. Areas to place waste bins will be identified with the help of village Government

in Korogwe Township. Baraka Bahati will give attention to areas with high population and where the illegal solid waste disposed.

#### **6.6.1.1 Indirect Beneficiaries**

- Local leadership in Korogwe Town Council
- Local Government Authorities
- Ministries of health
- Councilors
- Existing NGOs/CBOs

### **6.7 Institutions Framework**

#### **6.7.1 Implementing agency**

Baraka Bahati 2000 will implement the proposed programme interventions in collaboration with other institutions and programmes operating in Korogwe Town Council. Baraka Bahati is a Non Governmental Organization concerning with environmental issues. The group was started in 2000, it deals with environmental conservation/sanitation. Baraka Bahati 2000 group has the following objectives.

#### **6.8 General Objective**

To ensure the participation in environmental sanitation activities, especially in solid waste management system.

### **6.8.1 The specific objectives**

- a. To undertake environment protection and sanitation activities in Korogwe Town Council
- b. To raise public awareness on the issue of solid waste management system
- c. Finding the way of working with other Governmental Organization and private and private sector on the improvement of solid waste management system.
- d. To promote group saving for further economic generation and seek for financial assistance from other International National and Local organizations

Baraka Bahati 2000 has a wide experience in working with environmental sanitation and will use its experiences to work with village councils, health department and the community at large in addressing solid waste issues in Korogwe Town Council.

## 6.9 Collaborating Institutions

SN	Name of collaborating Institution	Role on the Programme
1	Korogwe Town Council	Provide technical and logistical support to the program implementation. Strengthen the town council education, health and water committee, which will oversee the solid waste management issues in the Town Council. Allocating health officers to areas where there are no health workers, review, approve and ensure that solid waste management issues are incorporated in the Council development plan.
2.	Ministry of health	Train health officers in the Town Council and allocate them to project area for capacity building on health, education and water committees. Provide policy guidance on solid waste



		issues and ensure implementation in the fight of hazardous health situation.
3.	Village Government, religious leaders, traditional leaders and councilors.	Sensitize and mobilize communities on environmental sanitation
4.	Ministry of community development gender and children	Provide policy guidance in gender balance in implementation of the project
5	Existing NGOs, CBOs	Link up with their programmes on solid waste management system, provide necessary support and collaboration

### **6.1.0 Objectives**

#### **6.1.1. Development Objective**

To contribute towards the progressive community participation environmental sanitation in Korogwe Town Council.

##### **6.1.1.1 Immediate Objectives**

By the end of the project awareness of solid waste issues and capacity communities, village Governments and other stakeholders to identify and take corrective action towards solid waste in the area enhanced.

- By the end of the project 150 waste bins and 1 vehicle for solid waste collection will be purchased for solid waste storage and disposal.
- Project interventions will be provided with require technical and logistical support.

#### 6.1.1.2. Major Outputs And Activities

<b>Development objective</b> <i>To contribute towards the progressive environmental sanitation in Korogwe Town Council</i>		
<b>Immediate Objectives</b>	<b>Outputs.</b>	<b>Main activities</b>
<b>Immediate objective 1:</b>	<b>Output 1.1</b>	
By the end of the project awareness of solid waste issues and capacity of communities, village Governments and other stakeholders to identify and take corrective action towards solid waste in the area enhanced	Increased awareness on solid waste management, village education, health and water committees trained and functioning, by law on waste management put in place and are enhanced	1.1 Hold one day consultative meeting with key stakeholders in Korogwe Town Council to disseminate finding of the survey and agree on intervention for

		<p>addressing solid waste issues.</p> <p>1.2 Prepare awareness and raising/ advocacy materials and disseminate them.</p> <p>1.3 Hold one-day training seminar for village Governments, existing CBOs, NGOs, programmes religious/traditional leaders.</p> <p>1.4 Prepare working materials for solid waste management.</p> <p>1.5 Train health, education, and water committee on solid</p>
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		<p>waste issue/ monitoring solid waste</p> <p>1.6 Support 2 consultative meetings of village leadership, existing NGOs/CBOs, programmes and other key stakeholders in the village in the possibility of formulating by-laws on wastes.</p> <p>1.6 Follow up by the Town Council by-laws proposed by village government.</p>
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<p><b>Objective 2:</b></p> <p>By the end of the project 150 waste bins and 1 vehicle for solid waste collection will be purchased for solid waste storage and disposal.</p>	<p><b>Output 2.1</b></p> <p>150 solid waste bins will be provided with solid waste bins and one vehicle for solid waste collection.</p>	<p>2:1: Carry out training needs for the key actor in the project.</p> <p>2:2: Orientations of health workers on solid waste issues.</p> <p>2.3: Provide solid waste bins to the community.</p> <p>2.4. Train and identify group members on necessary skill to run the solid waste vehicle.</p> <p>2.5. Provide solid waste collection services.</p>
<p><b>Objective 3:</b></p> <p>Project interventions will be provided with require technical and logistical support.</p>	<p><b>Output 3:1:</b></p> <p>Project intervention implemented within planned time.</p>	<p>3.1. Recruiting assistant program coordinator</p> <p>3.2. Monitor programme interventions and take timely action where need to be.</p> <p>3.3 hold one</p>

		stakeholders workshop to review the project progress after nine months.
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### 6.1.1.3 Verifiable Indicators and Means of Verification

<b>Outputs</b>	<b>Objectively verifiable indicators</b>	<b>Means of verification</b>	<b>Responsible for monitoring.</b>
Increased awareness on solid waste management, village education, health and water committees trained and functioning, by law on waste management put in place and are enhanced	Number of village health committees trained and functioning, number of villages which have to put by-laws and being enforced.	Report on the activities of village health commutes	Baraka Bahati, village Government, village health committees and Council health committee.
150 solid waste bins will be provided with solid waste	Number of waste bins purchased, number of group	Store ledger register, attendance	Baraka Bahati, village health

bins and one vehicle for solid waste collection	members trained on necessary skills to run solid waste vehicle.	register, and number of waste bins purchased.	committees, and health department.
Project intervention implemented within planned time	Number of project interventions implemented.	Progress reports, evaluation reports.	Baraka Bahati Council health committee and donor agency,

#### **6.1.1.4 Monitoring and Evaluation**

At the village level health committees will be responsible for monitoring the solid waste issues in the area, will meet on monthly basis to review and assess the implementation of the project interventions. The outcome of these meetings will be shared by the Town Council health committee and be used by Baraka Bahati 2000 to refine the approaches. Baraka Bahati will undertake field visits to monitor the progress of project interventions and report to the Town Council health committee and donor funded on bimonthly basis. By law on waste will be used to control the incidence of solid waste disposal in Korogwe Town Council. Donor funded project will undertake field visit to monitor the progress of project intervention on quarterly basis.

#### **6.1.1.5 Project Sustainability**

The project strategy of creating awareness and enhancing capacity of stakeholders on solid waste management issues and participatory planning of interventions is creating a sense of ownership of supported intervention as well as accountability of solid waste issues in the area. The structure which will be strengthened by the project i.e. village health committees and by laws are permanent structures to oversee solid waste management issues after this project and hence ensuring sustainability.

#### **6.1.1.6. Assumptions**

- (i) Village Government and other key stakeholders collaborating in the fight against solid waste issues in the area.
- (ii) Town council supporting (technically and logistically) effort to fight solid waste.
- (iii) Collaborating community to fight against solid waste issues.
- (iv) Continue collaborating of Baraka Bahati and donor funded project.

#### **6.1.2 Budget**



<b>ACTIVITY</b>	<b>TOTAL AMOUNT</b>	<b>AMOUNT IN US \$</b>
<b>INPUTS</b>	<b>T. SHS</b>	<b>US \$</b>
Supervisory, administrative and logistical support	3,700,000	3,620
<b>Sub total</b>	<b>3,700,000</b>	<b>3,620</b>
<b>INPUTS BY DONOR</b>		
Dissemination workshop	1,000,000	978
Prepare awareness raising and advocacy material	2,000,000	1,956
Training seminar for village Government NGOs/CBOs programme	900,000	880
Prepare training material for health committees	1,000,000	978
Train village health committees	800,000	782
Two consultative meeting to formulate by laws	900,000	880,
Follow up on by laws	300,000	294
<b>Sub total</b>	<b>6,900,000</b>	<b>6,748</b>
Education/training need assessment		
Training health worker on solid waste issues	1,200,000	1,164
Provide waste bins to community @ 300,000	4,500,000	4,405
Provide waste collection vehicle to the group	50,000,000	48,928
<b>Sub total</b>	<b>55,700,000</b>	<b>54,497</b>
Program support		
Stipend for the programme officer for 12 months @ 150,000	1,800,000	1,761
Stipend for assistant program officer @ 100,000	1,200,000	1,174
Sundries	600,000	487
Stationery	600,000	487
Monitoring programme interventions	600,000	487
Stakeholder review workshop	800,000	782
<b>Sub total</b>	<b>5,600,000</b>	<b>5,178</b>
<b>GRAND TOTAL</b>	<b>71,900,000</b>	<b>66,423</b>

### 6.1.3 The Status of the Proposal

The proposal is mailed to the funding organizations like civil Society Organization, United Nation Development Programme and International Labour Organization. Civil Society Organization responded and need some corrections on the proposal

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