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**&**

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**(2005)**

**WATER TRAINING NEEDS ASSESSMENT**

**OF KIJICHI BEACH COMMUNITY**

**PRIMUS. P.R. HERMAN**

**PROJECT REPORT ON WATER TRAINING NEEDS ASSESMENT FOR  
KIBEDEA, IN TEMEKE MUNICIPAL, SUBMITTED IN PARTIAL FULFILMENT  
FOR THE REQUIREMENT OF MASTER OF SCIENCE IN COMMUNITY  
ECONOMIC DEVELOPMENT, TO THE SOUTHERN NEW HAMPSHIRE  
UNIVERSITY AT THE OPEN UNIVERSITY OF TANZANIA , 2005**

## **SUPERVISOR CERTIFICATION**

This is to certify that, I have gone through the project report document, and find it to be in the form acceptable for review.

A handwritten signature in black ink, appearing to read 'Amadeus Kamagenge', written in a cursive style.

**Amadeus Kamagenge**

*Project supervisor*

**@Primus Herman, 2005**

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**Declaration to the certification of Senate.**

I am hereby declaring to the best of my knowledge that, this is my own original work, and it has not been submitted for the similar degree in any other University.

**Primus Herman**

## **Abstract**

The KIBEDEA Community Based Organization is located at Kijichi Beach in Temeke Municipal. It was initiated by a group of 25 members, who had gathered for celebrating the New Year 1997. The idea of forming the CBO came about due to hardship that affected the community. The hardships include; water shortage, poor roads, lack of schools, health facilities, etc. Registration process was completed in August 1997. Through voluntary cooperation of community members and international NGO, they have managed to rehabilitate a primary school, roads and acquire two water schemes among other successes.

The two deep tube well water scheme, which should be sufficient for solving water problem in the area are not providing water regularly. The problem was said to occur due to recurrent pump failure and lack of technical skills among the community members.

Training was suggested in order in order to impart skills and capacity building for community water scheme sustainability.

The training needs assessment was carried out as a ground work for training to be conducted later.

The water training needs assessment project involved the following activities:

(i) Community familiarization whereby several visits were done to the community before deciding the survey design (ii) conducting survey and (iii) literature review in order to establish valid data from which training will be based

From data collection and analysis it was found that, the community had hardly attended training regarding water scheme management and other community

issues despite the potential and willingness to be trained. Training needs for KIBEDEA includes; importance of water and sanitation, water scheme sustainability through community and private involvement in management and financing the scheme, gender equity and policy matters.

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**ABBREVIATIONS**

<b>B</b>	<b>Bank</b>
<b>BM</b>	<b>Bomba la Maji</b>
<b>BN</b>	<b>Bomba Nne</b>
<b>CBO</b>	<b>Community Based Organization</b>
<b>CCM</b>	<b>Chama Cha Mapinduzi</b>
<b>DAWASA</b>	<b>Dar es Salaam Water and Sewerage Authority</b>
<b>CED</b>	<b>Community Economic Development</b>
<b>DRA</b>	<b>Demand Responsive Approach</b>
<b>ESA</b>	<b>External Support Agencies</b>
<b>G</b>	<b>Green garden</b>
<b>KIBEDEA</b>	<b>Kijichi Beach Development Association</b>
<b>KO</b>	<b>Kijichi One</b>
<b>IRC</b>	<b>International Resource Center</b>
<b>LC</b>	<b>Lutheran Church</b>
<b>Msi</b>	<b>Msikiti</b>
<b>N</b>	<b>Neluka</b>
<b>NGO</b>	<b>Non Governmental Organization</b>
<b>O&amp;M</b>	<b>Operations and Maintenance</b>
<b>TGNP</b>	<b>Tanzania Gender Networking Programme</b>
<b>TZS</b>	<b>Tanzanian Shillings</b>
<b>UWSS</b>	<b>Urban Water Supply Services</b>
<b>RWSS</b>	<b>Rural Water Supply Service</b>

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## **CHAPTER ONE**

### **INTRODUCTION**

This report on training needs assessment of the community of Kijichi Beach is basically on the management of the existing community water facility. It covers the historical background of KIBEDEA, literature review for water policies of international agencies and that of Tanzania rural water supply in particular. The survey results were tabulated by using SPSS. Analysis and suggested training areas are presented in the report.

#### **1.1 Background**

The history of KIBEDEA dates back to the celebration of the New Year of 1997, when the idea came from a group of participants during the party. After the party, they thought about forming a community organization, which would deal with community development, at least to reduce some community problems. They suggested forming a CBO, which would advocate for community development. On 7<sup>th</sup> January 1997, a group of 25 people did turn up to form KIBEDEA, (refer to Appendix 5) they drafted a constitution, and went ahead to be registered on 11<sup>th</sup> August 1997, their registration number is SO.9060 (refer to appendix 5)

### **1.1.1 Mission**

The mission of KIBEDEA is to eradicate poverty through promoting community initiatives.

### **1.1.2 Objectives**

The objectives of KIBEDEA are:

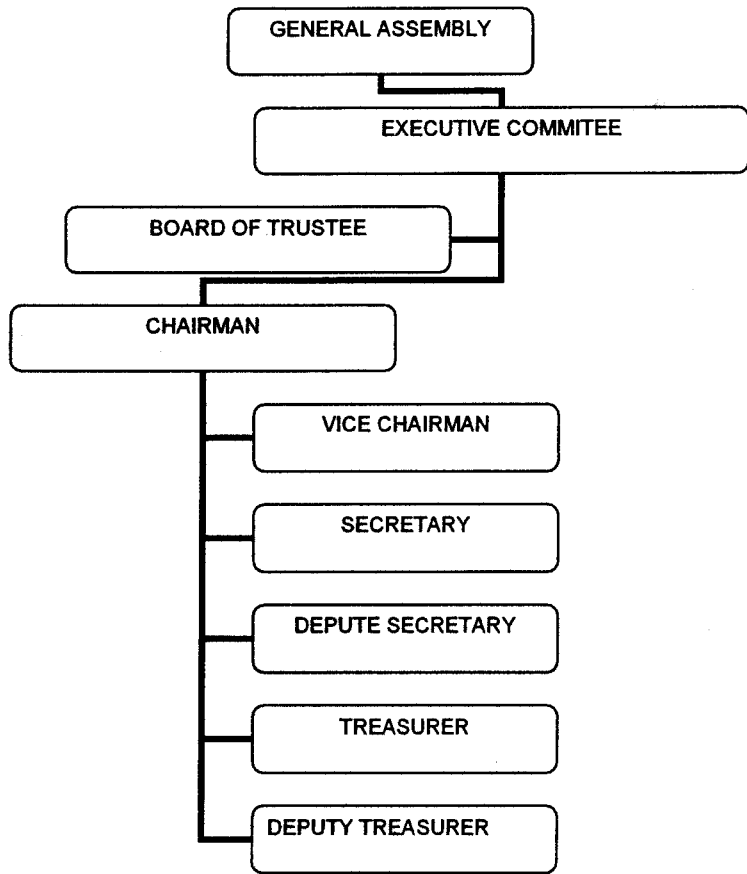
- i. To coordinate and promote voluntary social development of Kijichi area and Up-country,
- ii. To promote and upgrade living standards by improving social services Including: education, water supply, health care, roads rehabilitation, and land –use planning,
- iii. To promote development taking into account environmentally sound development.

### **1.1.3 Activities**

KIBEDEA is currently involved in the:

- School rehabilitation,
- Operating water scheme
- Recreation center
- Road rehabilitation

1.1.3 **Organization Structure**



#### **1.1.4 Location**

KIBEDEA is located at the elevated area, popularly called Mtoni Kijichi in Temeke Municipality, and its population is estimated at 18000 people.

The Mzinga River is separating the area from Mtoni Mtongani in the South, in the East there is Indian Ocean, in the South there is Mbagala Kuu and Mwanamtoti while Mbagala mission is neighboring the area in the West.

KIBEDEA has an office building at their head- quarters in the same area, (refer to Appendix 1)

#### **1.1.5 Water Sources**

The community has four natural sources of water.

**i. Water from Mzinga River**

Water from Mzinga River is not fit for human consumption (unless it is pre-treated) as it is contaminated due to car washing and industrial wastes from Karibu Textile Mills (KTM).

**ii. Sea water**

The seawater is not suitable for domestic use prior to treatment due high level of salinity.

**iii. Rainwater**

Rainwater is left un-tapped, naturally grows crops in the fields, if tapped can be used for household use as well.

#### **iv. Underground water**

The area is rich in soft underground water, which can be realized by drilling shallow wells and boreholes. Water from shallow well is always contaminated, but can be used for other application e.g. gardening, and animal consumption while deep wells gives clean and safe water for domestic uses. Investment cost for drilling, construction and maintenance of the borehole is relatively high.

### **1.2 Statement of project assignment**

The World Bank donated two deep tubes to the community in 2002 with an intention to reduce water shortage.

In less than a year period, pumps for these, tube- water wells were replaced twice due to faults. Each time when fault occurred, it took a long time to be fixed due to lack of money and technical skills among the community members. That has been a major reason for recurrent water problem to prevail in the area as shown in fig 2 (refer to Appendix 1).

Also the community considers the water project to belong to the Government; the situation that results into carelessness in handling and difficulties in contributing cash, to facilitate the sustainability of the water schemes.

That perception results into lack of commitment on the part of the community members who were given a responsibility to attend the water schemes.

On several occasions empty buckets were seen queuing at the locked community water supply points, indicating that, the person responsible to offer water services left without considering the people's needs (see fig 3 in appedix1).

The situation was different with private water scheme whereby the water attendants were busy in fulfilling their obligations. (See fig. 2 in appendix 1)

Further more, it was learned that, the Kijichi Beach community was not involved in planning and project management of water scheme, which was implemented with funds donated by World Bank, instead the scheme was handed over to KIBEDEA as care taker.

On the other hand, rainwater harvesting technology has never been introduced which could be a relatively cheaper alternative. Rain is a free gift and many can afford to tap it, if equipped with the skills regarding its storage. Currently rainwater is left un- used.

KIBEDEA is the voluntary association which is open to all of the people in the community for their development, but not all people in that community are members, and not all members are active, then it is possible to find that non - active and non members have different commitment depending on individual perceptions; although they are facing the same problem i.e. poverty.

Furthermore, any scheme cared by KIBEDEA, serves all people in the community.

In order to harmonize the goal and objective among Kijichi Beach Community members with different levels of understanding, effective training should be conducted.

Effective training referred to here is training which addresses required skills and attitudes, of the specific target group.

The required skills were identified through training needs assessment.

Therefore, a task in question was to carry out assessment of training needs related to management of borehole water facility, and possibility of harvesting the rainwater.

### **1.3 Objectives of Training Needs Assessment**

The Kijichi Beach community training needs assessment was carried out in order to answer the following questions:

- i. **What is the level of skills of the community in order to manage borehole water facility in a sustainable manner?**
- ii. **What is the ability of the community to meet the cost of borehole water facility?**
- iii. **What is the status of gender involvement in water issues?**
- iv. **What is the individuals expertise and capacity?**



- v. Which training had been administered to the community regarding management of water facility?

In order to find a solution to the above-mentioned questions, a survey was conducted, from which the data obtained was be used to analyze training needs for community.

## **CHAPTER TWO**

### **LITERATURE REVIEW**

#### **2.1 Introduction**

This section contains; theoretical review, empirical review and policy review as follows;

- **Theoretical review** , whereby I will look at ;
  - Importance of water resource management
  - Water management strategy Worldwide
    - World Commission on Water and World Bank
    - UNDP-World Bank Water Sanitation Program.
    - Water project in other countries ( case study –IRC)
  
- **Empirical review**
  - **KIBEDEA water facility**
  
- **Policy review**
  - Demand responsive approach to community water supply and Sanitation.
  
  - Tanzania National Water Policy

In this literature review, an over view of the water management issues in the community of KIBEDEA will be looked at in relation to Tanzania water policy. Also the discussion will include the importance of water over other needs, in the global context.

The discussion of core subject which is the importance of training needs assessment in view of other communities will be the focus point.

## **2.2 THEORETICAL REVIEW**

In the theoretical review I will look at, water resource management and how water problem are tackled in other countries.

### **2.2.1 Water Resource Management**

More than any other sector, Water Supply and Sanitation hits all main themes of the development agenda: poverty alleviation, environmental sustainability, private sector-led growth, participatory development and good governance.

Because water is so essential to life, the World Bank Group strives to help its member countries ensure that everyone has access to efficient, responsive and sustainable water and sanitation services. (Pickford, 1996)

The challenge is enormous: over one billion people still lack access to safe water, and nearly two billion lack safe and sanitation water. Slow progress is not acceptable, as more than three million people still die every year from avoidable

water-related disease (Rebecca Scott, Andrew Cotton and Beenakumari Govindan, 2003).

The figures are considerably higher in Southern Africa. However, valuable lessons have been learned over the years, particularly in 1980s, as proclaimed by the UN General Assembly as the "International Drinking Water and Sanitation Decade". Much of the experience gained in approaches which enhanced sustainable development, and was systematized in the proceedings of several world conferences in the early 1990s, notably Abidjan 1990, New Delhi 1990, and Dublin 1992, (Martin, 2000).

The use of ground water is the main focus of the community in order to solve the problem of water shortage. It is important to impart the sanitation knowledge with respect of the risks to health posed by groundwater contamination from on-site sanitation. The study focuses on microbiological contamination as the most widespread and direct threat to health of users. Then it is important for the community to be equipped with general understanding of the threat, in order to be proactive in case of situation or activity which could result in underground water pollution.

Experience shows that, many water systems had failed because of inadequate maintenance and poor management provided by governments and their agencies in developing countries, (Pickford, 1996).

## **2.2.2 Water Management Strategy Worldwide**

In order to discuss briefly on water management strategy worldwide we will have a look at; World Commission on Water, UNDP- World Bank Water Sanitization Program and IRC Programs in other countries

### **2.2.2.1 World Commission on Water**

Emphasis of World Bank has been on water development and management because these sectors have direct impact to poverty reduction which is its major focus. Mismanagement of water has contributed to the current unfavorable environmental conditions, which also contributes to poverty of the community.

During the past century, while world population tripled, the use of water increased six fold. Irrigation accounts for 70 percent of global water withdrawals, industry for 20 percent and municipal uses for 10 percent. The increased use of water has come at high environmental costs; some rivers no longer reach the sea, 50 percent of the world wet lands have disappeared in the past century, 20 percent of the freshwater fish are endangered or extinct, and many of the most important ground water are being mined, thus water tables already deep and dropping by meters every year, and some damaged permanently by salinization.

World commission on Water estimates that water use will increase by 50 percent in the next 30 years. And estimated 4 billion people – one half of the world's population will live under condition of severe water stress in 2015, Africa, middle east and South Asia, will be particularly severely affected (World Commission on Water Report, 2004).

Population and economic growth, and greater appreciation of the value of water in ecosystems, mean that water demands are growing. Tension over water rights is increasing at the level of the village, city and basin. Some of these disputes are spilling over to international river basin, (Taylor, 1989).

The above said situation calls for sound water resource management and development, which are critical to the World Bank's strategic objectives of sustainable economic growth and poverty reduction.

#### **2.2.2.2 UNDP-World Bank Water Sanitation Program.**

The program was designed and implemented with five Regional Water and Sanitation Groups, (RWSGs) located in East Asia, South Asia, East Africa, West Africa and Indonesia. It collaborates with a wide range of international donor agencies, non- governmental organizations (NGOs), government agencies and community members (Fink, 1995).

Community participation is the key to successful of the program, hence sustainable water supply and sanitation projects. It requires the full participation of all community members especially women, children, and leaders.

The community members are beneficiaries whose majority have low general understanding to the means of poverty eradication, thus needs an assistance to achieve the pre-determined goal of the World Bank to the poor.

Most of the urban population is coming from-rural area whereby, availability of clean water is not guaranteed and the available water is due to natural sources (springs, river, lakes, and swamps). Most of those sources are costless in terms of cash, but consumes most of valuable time of the community members. (The time seems to have no value in African rural context). Because of that, any activity which is involving cash out flow of the people in the community faces a stiff resistance.

In order for water schemes to be sustainable, the community should be trained, purposely, with motive of creating awareness of the responsibilities; including, asset care and cost sharing among the beneficiaries.

Since the communities of the world are not uniform in term of needs, then every community has to be considered differently.

IRC has been dealing with similar projects, which can be our case study on strategies to solve the water shortage and sanitation problems in different countries.

### **2.2.3 Water Projects in Other Countries**

The IRC Resource Centre Development Program is currently running in 19 countries in Africa, Asia, Latin America and Europe. IRC is helping to develop

Resource Centers in:

- i. Eastern Africa: Kenya, Uganda
- ii. West and Central Africa: Burkina Faso, Ghana, Mali, Mauritania
- iii. Southern Africa: Mozambique, South Africa
- iv. South Asia: Bangladesh, India, Nepal, Sri Lanka, Pakistan
- v. South-east Asia: Philippines, Vietnam
- vi. Latin America: Colombia, Bolivia

Eastern Europe: Bulgaria, Romania These Resource Centers need to:

- Have strong connections with everyone in the water and sanitation sector, from academic environmental research, engineering departments of government ministries, international aid organizations, technical training colleges, local government departments, community organizations, and resource centers in other countries.



- Know what these groups are up to — not just their activities, but also the lessons they are learning through their own experiences, which are often invaluable, but rarely documented.
- Repackage this information for specific groups of users.
- Know what work is needed and what is being done or planned relating to water and sanitation in the locality.
- Anticipate the information needs of everyone involved, from the researchers and planners to the end users.
- Direct people to where they can find relevant information, support and advice when they need it and in a format they can readily use and understand.

In some of them, IRC is working with long-term partner organizations, but in others it is starting from scratch, selling the program to organizations active in the water sector and working with those who want to be part of the program. This program is a unique attempt to promote information sharing within the water sector, particularly at a national level. This information is available to those who need it. Wealth of knowledge, experience and understanding that has been gained in countries and regions through decades of implementation projects, training schemes, educational initiatives and action research became an important tool for poverty reduction.

New countries and partners are still joining the program. IRC provides support to:

- Build a national network with other organizations in the sector to share Information and build up a collective ability to absorb and repackage information
- Argue the case throughout the sector for the importance of quality Information.
- Improve their own handling of information through training and changing The way they organize their work
- Find ways of financing their activities for example by encouraging donors and governments to allocate money for information initiatives

The target is Millennium Development Goals, which represent a new determination to address the needs of the poorest and most deprived communities. It includes halving no number of people without access to clean water and sanitation by 2015. This is a very tall order. It will mean getting clean water to an additional 250,000 people and sanitation facilities to 350,000 every day for the next 12 years.

Over the past couple of decades, a vast amount has been learned about how to implement effective water and sanitation projects and how not to. Yet many successful small innovative initiatives are never taken up by the mainstream.

And many high-profile schemes continue to be a source of disappointment, grabbing the headlines when new, but soon falling into neglect and disrepair. Thus becoming the lessons to be learned, that new knowledge and experience that is aiming at developing all the time, is useless until it is in the hands of the people who carry out the work, (IRC, 2003),

## **2.3 EMPIRICAL REVIEW**

### **2.3.1 KIBEDEA water facility**

Kijichi beach area unlike its neighbors is gifted with plenty of soft under -ground water at 44m, which is suitable for domestic uses. That was an added advantage for them to be approved by World Bank for borehole water facility.

The Mission of World Bank was to drill the deep tube well, which was to be handed over to the community organization in the area for sustainability.

The following criteria were used for selection:

- i. Government support (water policy)
- ii. Presence of community organization
- iii. Presence of suitable underground water

The Kijichi beach qualified for all conditions.

The water scheme handed over to KIBEDEA after commissioning per above stated conditions, but the Kijichi beach community was not involved in the preparation stages i.e. proposal, (the situation that made my effort to find it for review to be in vein), selection of technology and project implementation. Due to that reason training issues were not clarified, to the extent that the scheme was commissioned without any training to the community.

The DAWASA as government agency specialized in water sanitation was obliged to take care of technical issues (from drilling to maintenance). Thus it was given a task to supervise the drilling of two deep tube wells, which were handed-over to KIBEDEA after completion. Thus KIBEDEA became a caretaker of those two deep tube wells.

The yield of well A, is 5,000 liter per minute and a larger borehole (Well B) is 15,000 liters per minute as shown in fig 3 (refer appendix 1).

After taking over the wells, a technical committee was constituted, to take care of the water facility in collaborations with DAWASA. Due to lack of training on operating pumps and other accessories, the committee, became dependants on DAWASA technicians.

Borehole A is equipped with 5,000 liter plastic water tank, which is serving approximately 30 households. Borehole B is equipped with 10,000 liter plastic tank (refer to fig 5 in appendix 1) from which 10 households are supplied with

water through direct pipes and another pipe has been extended to supply three sub wards.

Recently, in August 2004, the Temeke Municipal Council, supplied pipes and fittings to facilitate the supply of water to the neighbor communities. These are **Mwana Mtoti, Mbagala Kuu and Mgeni Nani**. A concrete tank with capacity of 20,000-liter tank was built as a distribution center to these three sub wards, (refer to fig 7 in appendix 1). It is estimated that, their consumption is 60,000 liters of water per day. In general it is estimated that 90-households are sourcing water from the scheme.

For sustainability purpose; payment has been set at TZS 10 per bucket for water users at Kijichi and TZS 20 per bucket for users at Mbagala kuu, Mgeni Nani and Mwanamtoti (one bucket is equivalent to 20lt).

There is no proper explanation regarding the reason why they did set the above prices (no cost analysis,). The price difference was said to be due to additional distance from the source.

However, the recurrent failure of pumps for larger borehole, and pump and motor for smaller borehole has been stabling block for sustainability and reliability of the water facility.

It is obvious that needs of water could be the same with other similar locations, but means of solving the problem could be different due to varying conditions; thus signifying the need of doing training needs assessment in order to have effective training method for KIBEDEA community.

## **2.4 Policy review**

In policy review regarding water, emphasis was given to the principles of International water agencies and Tanzania National Water Policy 2002.

### **2.4.1 International agencies**

The researcher has selected the popular DRA and water financing policy, as a guide to the assignment in question because the water scheme involved the international cooperation (World Bank).

#### **2.4.1.1 The Demand Responsive Approach (DRA) to Community Water Supply and Sanitation**

Over the Past decade a considerable degree of consensus has developed amongst international agencies active in the water sector, as well as government and other stakeholders in developing countries; on principles to guide the provision of rural water supply and sanitation services.

These call for water to be treated not only as social goods, but also as an economic one, that should be managed at the lowest appropriate level. This requires that consumers be engaged in the process selecting, financing, implementing and managing systems that meet their demand and are affordable; in terms of what they and their government can afford to pay.

The other key supporting principles is the need to adopt holistic approach to the use of water resources, and to acknowledge the importance of the role of women in the management of water. The broad consensus around these principles is termed as Demand Responsive Approach (DRA), which has acquired by World Bank as its Vision of global economic and political trends.

The core principles of DRA are as follows:-

- Water should increasingly be managed as an economic, as well as social good. The management should be focused at the lowest appropriate level
- A holistic approach to use of water resources must be applied
- The role of women in the management of water is important.

**The Characteristics of DRA include:**

- The community initiatives and makes informed choices about service options, based on their willingness to pay for the service, and

acceptance of the responsibility for subsequent operations and maintenance

- The community contributes to invest cost relative to level of service and has significant control over how funds are managed
- There is an adequate flow of information to the community , as well as procedure for facilitating collective action within the community,

(Social intermediation)

- Communities can choose how goods and services are delivered and how water and sanitation are managed
- Government has a facilitative role , sets clear national policies and strategies and creates an enabling environment ( including the legal framework) for participating groups
- The Community ( or representative legal body thereof) owns and is responsible for sustaining its facilities
- Community capacity is appropriately strengthened
- Innovation is promoted and the need for flexibility is recognized

(World Bank, 2002).



### **2.4.1.2 Financing policy**

The financing policies needs to:

- Send out correct signals linking service levels to actual costs
- Maximize cost recovery by capturing community willingness to pay
- Make efficient and equitable use of subsidies

The community should choose their preferred level of service from range of technical options with full knowledge of what they would be expected to pay.

The option should be presented to the communities at known prices related to relative costs

(World Bank, 2002).

## **2.4.2 Tanzania National Water Policy 2002**

In Tanzania, fresh water is regarded as basic natural resources, vital for living, also for social and economic needs.

Water is regarded as most important resources in achieving the 2010 poverty eradication and 2025 development goals.

The water policy in question covers three sub-sectors

- Water resource management

- Urban water supply
- Rural water supply

In respect for the exercise in question, concentration of the researcher will be on water management and rural water supply policies, due to the fact that; KIBEDEA environment resembles most rural than urban, although it is located in the city of Dar es salaam.

#### **2.4.2.1 Water Resource Management**

Tanzania is said to have volcanic and sedimentary rocks which are rich in water. Boreholes drilled in volcanic rocks in North and Southern Tanzania, yield of 800 cubic meters while boreholes drilled in Coastal sedimentary rocks yields 50cubic meter per hour. But salinity and fluoride concentration limit their human use.

The depletion and rise of demand on limited water supply result in putting at risk some of the water related investment, thereby creating conflict. Extensive irrigation during dry season dries up the rivers, thus disturbing ecosystem and wildlife. Therefore the government put in place act Number 42 of 1974 and its subsequent amendment; such as act No. 10 of 1981 which introduced pollution and control aspect. These policies are for control and regulatory for water utilization.

The objective of the policy for water resources management is to develop a comprehensive framework for promoting the optimal, sustainable and equitable development and use of water resources for the benefit of all Tanzanians, based on a clear set of guiding principles.

The specific objectives of water resource management are;

- i. To develop equal and fair procedures in access and allocation of water resources.
- ii. To ensure that social and productive sectors, and the environment receive their share of the water resources
- iii. To ensure effectiveness and efficiency of water resources utilization
- iv. To promote the management of water quality and conservation
- v. To improve the management and conservation of ecosystem and wetlands
- vi. To promote integrated planning and management of water resources
- vii. To raise public awareness and broaden stakeholder participation in the planning and management of water resources
- viii. To ensure financial sustainability and autonomy of basin water boards

- ix. To promote regional and international cooperation in the planning, management and utilization of water.
- x. To provide the basis for future institutional framework and legislation for water resources management.

#### **2.4.2 .2 Urban Water Supply and Sewerages**

Urban areas in Tanzania are experiencing rapid expansion; whereby the population is growing at rate of more than 6%per annum. This situation results in extending enormous strain on the delivery of various services including water and sanitation services. According the recent review, between one third and one half of urban population lives in unplanned or squatter areas. Apart from being of generally poor housing, are characterized by high population density and general deficiencies in infrastructure service including water and sanitation.

The existing water infrastructure and water sources are old and inadequate to meet the ever increasing demand for water.

The policy aims at achieving sustainable, effective and efficient development and management of urban water supply services (UWSS).

The specific objectives of the policy in the context of developing and monitoring urban water and sewages services are;

- a. To guide the development and management of efficient, effective and sustainable water supply and water disposal system in urban centers.
- b. To create an enabling environment and appropriate incentives for the delivery of reliable, sustainable and affordable urban supply and sewage services
- c. To develop an effective institutional framework and ensuring that water supply and sewage entities are financially autonomous
- d. To enhance an efficient and effective system of income generation from the sale of water and waste water removal.
- e. To enhance water demand management and waste water disposal

(National Water Policy, 2002)

#### **2.4.2.3 Rural Water Supply**

The rural water supply is aiming at attaining sustainable supply and sanitation services which are owned by communities with support of the government.

This involves;-(i) Community participation (ii) ownership (iii) Choice of technology (iv) Involvement of communities in planning (v) Design and construction (vi) Involvement of communities in Operations and Maintenance (O&M) (vii) Private sector participation (viii) Public sector regulation, facilitation and co-ordination (ix) Domestic water supply minimum service level,(x) Water for livestock (xi) Rainwater harvesting (xii) Integration of water

supply (xiii) Sanitation and Hygiene education (xiv) Gender Sensitivity (xv) Service regulation (xvi) Financing rural water supply program (xvii) Legal and regulatory framework (xviii) Institutional framework (xix) Co-ordination and collaboration and (xx) Monitoring and evaluation

#### **2.4.2.3.1 Community participation**

Goal: Sustainable water supply and sanitation services legally owned by communities themselves. Water supply and sanitation facilities provided without the active participation of the beneficiaries in planning and management are often not properly operated and maintained and hence unsustainable.

#### **2.4.2.3.2 Ownership**

The In order to ensure that communities become legal owners of water supply schemes the following will be undertaken:

- i. Legal registration of water user entities will be instituted to ensure that communities are the legal owners of their water supply schemes including water wells
- ii. Roles, responsibilities, rights and limits of authority of water user entities will be clearly defined.
- iii. Communities will be facilitated in acquiring technical and management skills.

#### **2.4.2.3.3 Choice of technology**

Failure of some of the rural water supply schemes has been attributed to appropriate technology and location facilities, and lack of social acceptability and affordability.

In order to put in place a mechanism which will allow communities to make informed choices of technology, the following will be under taken;

- i. Communities will be empowered and facilitated to make appropriate technology choices that suit them, particularly which require low investment cost, and are least costly in operation and maintenance
- ii. Use of environmentally friendly technologies, including gravity, solar wind power for pumping will be promoted

#### **2.4.2.3.4 Involvement of communities in planning, design and construction**

In order to motivate communities into full and effective participation in planning and managing their water schemes and thereby creating a sense of ownership and gradually building capacity it is essential that communities let and supervise design and construction contracts. Communities may call on their district authorities for assistance in letting contracts including their preparation and supervision.

Ultimately, however, communities shall be responsible for letting and supervising design and construction contracts awarded to private consultant and contractor.

To ensure that the community participates fully in the design and construction the following will be undertaken:

- i. Design manual will be reviewed and disseminated
- ii. Communities will be trained to acquire skills in letting and supervising of design and construction contracts.

#### **2.4.2.3.5 Involvement of communities in operation and maintenance (O&M)**

For sustainability of water schemes, communities will be required to pay full operation and maintenance costs and costs of higher service levels as well as to manage their schemes.

At the stage of the project conception, the indicative magnitudes of the O&M will be discussed with the communities to match the level of service and technology selected with the willingness and ability of the community to operate, maintain and manage the chosen option.



Community may contract private operator to manage the scheme. In order to make rural communities responsible for operation and maintenance of their water supply and sanitation services, the following will be carried out;

- i. Communities will be educated and facilitate to enable them manage operational and meet operation costs including that of scheme improvements
- ii. Communities will be trained to acquire skills in letting and supervision of operation contracts

#### **2.4.2.3.6 Private Sector Participation**

Involvement of the private sector in the delivery of water supply is highly expected to improve efficiency and effectiveness, hence development and sustainability of service delivery.

In order to promote private sector participation in rural water supply and sanitation services the following will be undertaken;-

- i. Participation of the private sector in service delivery will be promoted
- ii. An enabling environment for increase private sector involvement, including incentive and legal recognition will be created

- iii. Assistance will be given to private sectors and district councils to strengthen their capacities
- iv. Communities will be educated on the importance of the private sector participation in the provision of rural water and sanitation services

#### **2.4.2.3.7 Public sector regulation, facilitation and co-ordination**

Ongoing reforms on public sectors aims at the government to change its role from being implementer to regulator, facilitator and coordinator.

In order to ensure that productivity is increased as the government assumes the new roles, the following will be undertaken;-

- i. Adequate legal framework related to rural water supply will be provided
- ii. Technical and financial support for the construction of new scheme, expansion, and rehabilitation of existing water supply scheme will be provided
- iii. The ministry responsible for water including the district council will be streamlined and strengthened to effectively taken on the new role.

#### **2.4.2.3.8 Domestic water supply at minimum service at level**

In rural areas actual water usage ranges from 5 liters per capital per day in acutely water areas to 30 liters per capita per day in other areas.

In most cases, domestic water, which is not portable, is fetched from a source far away from the home stead. In providing rural water supply and sustainable services to rural areas the minimum services level are established as follows;

- i. The basic level of services for domestic water supply in rural areas shall be protected, year round supply of 25 liters of portable water per capita per day through water point located within 400 meters from the furthest homestead and serving 250persons per outlet.
- ii. Higher service levels including house connections will be encouraged where it is technically feasible and there is an effective demand.

#### **2.4.2.3.9 Water for livestock**

Often water for livestock is not included in the designs of community water supplies. Lack of water for livestock results in constant migration by livestock keepers in search for water. This leads to contamination and destruction f water

sources which in turn can initiate or enhanced water use conflict among the users.

In order to ensure that livestock is provided with adequate water, the following will be carried out;

- i. Emphases will be placed on construction of dams and water wells for livestock
- ii. Water requirement for livestock will be included in rural water supply design where feasible.
- iii. Livestock areas where water is scarce shall be identified and given priority in the provision of water supply and sanitation area.

#### **2.4.2.3.10 Rainwater Harvesting**

Rain water harvesting will be promoted in rural areas. In order to make water more available to the rural areas through rainwater harvesting the following will be undertaken;

- i. Communities will be made aware and encouraged to use rain water harvesting technologies
- ii. Research on rain water harvesting technology will be enhanced

- iii. Rainwater harvesting will be promoted through creation of awareness and training of various stake holder.

#### **2.4.2.3.11 Integration of water supply & sanitation and hygiene education**

Diseases associated with lack of safe water and poor hygiene and sanitation are major causes of sickness and death in the country. Lack of access to safe water, sanitation and hygiene education is one of the root causes of poverty as it is the poor, especially women and children, who suffers most due to poor living conditions, diseases and foregone opportunities.

In order to improve the health and conditions of people in the rural areas emphasis will be placed on integrating water supply and sanitation services and hygiene education.

#### **2.4.2.3.12 Gender sensitivity**

Women in rural areas bear the burden of searching for water and guardians of the living environment. However this pivotal role has seldom been reflected in institutional arrangement for the development and management of rural water supply and sanitation services.

In order to improve gender participation in rural water supply programs the following will be undertaken;

- i. A fair representation of women in the village
- ii. Rural water supply programs shall be based on what both men and women in rural communities know, want, and are able to manage, maintain and pay for
- iii. Raise awareness, train and empower women to actively participate at all levels in water programs, including decision making, planning, supervision and management

#### **2.4.2.3.13 Service regulation**

Access to clean and safe water is basic need and right for all human beings, it is important that all members of the community including the disadvantaged groups efficiently and equitably use the water. District and villages government shall regulate water use entities. Communities will ensure the protection and consecration of water sources as well as equitable service provision to economically disadvantaged groups within the communities.

In order to establish the a system for service regulation for the rural water supply and sanitation services the following will be implemented;-

- i. Roles, responsibilities, right and limits of authority of water entities will clearly be defined
- ii. Communities will be made aware of the importance of water sources protection and conservation

- iii. Mechanism to ensure entities and private operators are accountable to water users and that water users meet their obligations will be established

#### **2.4.2.3.14 Financing Rural Water Supply Program**

Development and sustainability of rural water supply schemes requires adequate financing. Dependence on government and donors as the sole provider for water services has led to inefficient delivery of rural water supply and sanitation services. It is imperative to mobilize and empower communities to take the lead in their development. The government shall continue to mobilize and provide financial support to complement community effort.

In order to ensure that the communities finance their water supply programs the following will be undertaken;-

- i. Demand responsive Approach (DRA) shall be promoted
- ii. Communities will establish a mechanism to contribute a portion of the capital cost, in cash and kind, for new schemes, for rehabilitation, replacement and system expansion.
- iii. Communities will establish a mechanism to pay the full cost of O&M and for higher service levels.
- iv. Water scarce areas shall be identified and given priorities for investment

#### **2.4.2.3.15 Legal and Regulatory Framework**

Ministry responsible for water, External Support Agencies (ESAs) and Non Governmental Organizations (NGO) have been planning and structuring rural water supply scheme, with little participation of the beneficiaries. The government has been the owner and operator of most of this schemes leading to lack of commitment by the beneficiaries to safeguard the facilities. Issues of ownership and management of the water schemes are central in the sustainability of rural water supply schemes. To ensure that existing and new water schemes are legally owned by appropriate water entities and performance standards are adhered to by all actors, the following will be undertaken;-

- i. Relevant Acts and regulations under which rural water users entities can be legally registered will be reviewed
- ii. Regulation pertaining to private sector participation in water supply and sanitation services in rural areas will be strengthened.
- iii. Information on the regulation pertaining to rural water supply and sanitation services will be disseminated to all stakeholders



#### **2.4.2.3.16 Institutional framework**

Sustainability of rural water supply and sanitation (RWSS) services requires that communities take lead in developing their WSS facilities and be fully responsible for the O&M of their Schemes. The private sector will provide support to communities in planning, design, construction and supply of materials, equipment and spares.

An effective organization structure that is simple, transparent, efficient and accountable to the communities needs to be established in order to make rural water supply and sanitation scheme sustainable. The roles and responsibilities to be played by each actor will be careful and clearly defined; linkage and partnership framework established and properly coordinated and nurtured, and activities continuous monitored and evaluated to capture lesson learnt.

In order to establish an institutional framework for the development and management of RWSS facilities the following will be undertaken;

- i. The existing institutional structure will be reviewed in line with the new roles and responsibilities
- ii. Roles and responsibilities of each RWS sub- sector actor will be clearly defined and disseminated
- iii. A partnership framework for all stakeholders will be established

- iv. Awareness to the communities on their roles and responsibilities will be created

#### **2.4.2.3.17 Co-ordination and collaboration**

The existing co-ordination and collaboration mechanism practiced by various actors in rural water supply sub-sector are generally project oriented

Lack of co- ordination and collaboration may result in duplication of efforts and misallocations of available resources.

Forums for co-ordination and collaboration mechanisms will be delivered, defined and made accessible to all stakeholders

#### **2.4.2.3.18 Monitoring and evaluation**

Improvement of rural water supply services delivery requires that activities are continuously monitored and evaluated to capture lesson learnt. Participatory monitoring and evaluation will be carried out at the district and community levels with support from the central government, district councils, ESAs, NGOs and private sector. Involvement of all key actors and interested groups in monitoring will be encouraged.

In order to establish a mechanism for participatory monitoring and evaluation at different levels, the following will be undertaken:-

- i. Community monitoring capacity will be developed
- ii. A computerized data base will be developed at districts and national level
- iii. A comprehensive reporting and feedback mechanism from each level will be established.

(National Water Policy, 2002)

## **2.5 Community Training Needs Assessment**

Based on rural water supply policy, and actual situation on the ground, training for KIBEDEA community is highly needed.

But due varying conditions in individual capabilities; (mental, education, financial, and emotions), as well as community capabilities; (location, environment, culture, gender sensitivity etc), assessment need to be done with motive to get community perspectives directly. The Researcher believes that survey is the better approach for collecting information which would lead to better setting of appropriate training for the community.

## **CHAPTER THREE**

### **RESEARCH METHODOLOGY**

#### **3.1 Introduction**

The purpose of this chapter is to give an overview regarding the research process adopted in data correction.

The following will be covered in the research methodology; - survey, units of enquiry, sampling, data collection and data analysis in the KIBEDEA context

#### **3.2 Survey**

In order to survey the KIBEDEA community, questionnaire, interviews and observation were applied.

Questionnaires were largely used in the data collection. Interviews were also conducted to collect some of the information through personal contact and telephone.

The process entails the following;

- Asking people questions directly to get required information,
- Giving instructions needed in filling questionnaires to get desired information
- The language of the respondent was considered for clarity
- Design was determined considering the resource available
- SPSS was used to organize the data for analysis

Physical observation also was used to collect and confirm some of the information e.g. Roof cover of houses, water schemes, office location etc.

### **3.3 The reasons for conducting survey: -**

- i. To gather information to facilitate the identification water training needs
- ii. To evaluate the extent of the need for training at KIBEDEA
- iii. To find information; this would help to organize working tools for training purpose

### **3.4 Reasons for selecting questionnaire as major survey method**

The criteria used for selecting self administered questionnaires were due to the facts that; most of the targeted people are not easily available because are working in diverse locations, and they have no fixed time for come back, then self administered questionnaire became the appropriate method. Also there are other factors which were considered, such as convenience and complexity of the information.

#### **3.4.1 Convenience**

The questionnaires were filled at convenient condition and time of the respondent, therefore got a chance to give relative accurate data.

Questionnaire gave people a chance to give information at; their own speed, time, and location of their choice

### **3.4.2 Complexity of information**

In this case, the Researcher used questionnaires, which are self explanatory to the respondents and the information asked was very diverse. The respondent had an ample time to seek for some answers (in case the respondent was not sure) from family members e.g. amount of water used etc.

### **3.5 Survey design:**

The cross - sectional design was opted due to time and resource available.

The following areas were considered: - (i) Gender participation (ii) Level of education (iii) Training background (iv) Training ambition (v) Amount of water used per day and (vi) Income levels.

#### **3.5.1 Gender Participation**

The following was looked at:

- i. Gender involvement in fetching water from wells (water source). The aim was to find out who are involved in fetching water mostly in order to form a target group for training on how to use pumps, etc.
- ii. Gender structure in decision making.

By knowing the key player in decision making at house hold level regarding when to fetch water, how much (quantity of water and money to purchase water), and for what purpose, would give an important information on how to discuss water management matters. Also by knowing the decision maker for

capital investment would enable the trainer to set appropriate material/ training manual to discuss relevant matters with right people (investment for rain water harvesting, water pipes etc)

### **3.5.2 Level of Formal Education**

Level of education, need to be considered when planning the training methodology.

The researcher aimed at instituting the training methodology which would fit the target group in terms of language and contents so that, training could be enjoyable, thus motivating the participants to attend.

### **3.5.3 Training Background**

The researcher believes that effective training should consider the knowledge of the target group. Therefore by knowing the previous training conducted to the same community would enable the trainer to assess the level and habit of the community members when preparing training manuals.

### **3.5.4 Training desire (ambition)**

By knowing the ambition (readiness) for training of the community, would give a picture to the trainer on how to arrange the topics, in order to create the morale for the recipient of the training. It will also assess the acceptability of the program to the community

### **3.5.5 Amount of water consumed per day**

The researcher expects that, knowing the average amount of water used by the community household would give an indication of acuteness of the problem of water shortage.

That would enable the researcher to assess water deficit and its impact to their life, in order to assess the significance of investment on water, in terms of capital and training.

The level of water application would reflect the extent of activity in relation to poverty alleviation, e.g. livestock keeping, gardening, poultry, roundly business, restaurants etc

### **3.5.6 Income level**

By knowing the income level the researcher would be able to assess the affordability and ability to participate in contribution on various means of getting water and water treatment,

## **3.6 Pilot testing of data**

The pilot testing of data collection was carried out in Mbagala, aiming at assessing the accuracy and suitability of the questionnaire to be used in the process. The same exercise also was used to indicate the time required, relevancy and clarity of the questions.



Results obtained helped to modify the questions to make it suitable for intended survey.

### **3.7 Sampling**

In order to have adequate data which would give a clear picture of the community, the questionnaires were distributed in twelve streets within the community. The selection of respondents was done randomly to the heads of the households. It is estimated that 40 households of Kijichi Beach are depending on community water scheme. For that reason 50 questionnaires (which is 125% of the current house hold depending on the scheme) were distributed in twelve streets, and 35 (87.5% of target group) duly filled were collected back. The researcher believes that data collection from the 87.5% of the target group, together with information obtained from interviews and physical observation, gave a valid base for qualitative and quantitative analysis.

### **3.8 Unit of inquiries**

The units of inquiries for the research include; KIBEDEA management, Community members, Community development officers at Temeke Municipal council, Officers in the Ministry of Water and Livestock Development and Training officers at Rwegalulira water training institute.

### **3.9 Data collection**

#### **3.9.1 Introduction**

As said earlier; the water scheme for KIBEDEA was estimated to serve at least 40 households at Kijichi Beach area.

Based on that estimates, the Researcher collected (through questionnaire) data from 35 households selected randomly, which is 87.5 percent of our target community. The data collection from the said proportion was represented in table form. Physical visit to water supply stations, community infrastructures and interviews was carried out in order to complement the collected data.

#### **3.9.2 Locations involved in data collection**

Data was collected from the following locations in Kijichi Beach (refer to Table 1 below)

- i. Kipima
- ii. Kwa mongi
- iii. Kijichi one
- iv. Lutherun church
- v. Mskiti
- vi. Neluka
- vii. Nasako
- viii. Bank

- ix. Bomba la maji
- x. Bomba nne
- xi. Green garden beach
- xii. CCM

Table 1. Respondents in respect of their locations

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid B		8.6	8.6	8.6
BM	1	2.9	2.9	11.4
BN	2	5.7	5.7	17.1
BW	4	11.4	11.4	28.6
CCM	3	8.6	8.6	37.1
F/K	1	2.9	2.9	40.0
G	4	11.4	11.4	51.4
K	1	2.9	2.9	54.3
KM	2	5.7	5.7	60.0
KO	2	5.7	5.7	65.7
KT	1	2.9	2.9	68.6
LC	2	5.7	5.7	74.3
Msi	1	2.9	2.9	77.1
N	4	11.4	11.4	88.6
NS	4	11.4	11.4	100.0
Total	35	100.0	100.0	

Source: Researcher's matrix

## CHAPTER FOUR

### DATA ANALYSIS

#### 4.1 Introduction

The collected data were analyzed qualitatively and punitively, with the aid of SPSS, whereby data in all areas of interest were analyzed separately for clarity.

#### 4.2 Data on Gender perspective

From data collected, it was observed that, 22.9% of the respondents were women, and the rest were men (77.1%) (Refer to table 2 below. Since the respondent of the questionnaire were the heads of household, then ownership of houses and decision making regarding capital investment would reflect more or less the same figures.

Table 2. Respondent in gender perspective

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Female	8	22.9	22.9	22.9
	Male	27	77.1	77.1	100.0
	Total	35	100.0	100.0	

Source: Researcher's matrix

#### 4.3 Roof cover

The majority of the respondents have corrugated iron sheet roofs and minority have tiles. No one found having the glass roof (refer to table 3)

Table 3. Roof cover for the respondent's houses

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Corrugated iron sheet	28	80.0	80.0	80.0
	Tiles	7	20.0	20.0	100.0
	Total	35	100.0	100.0	

Source: Researcher's matrix

#### 4.4 Household size

The household size of the respondent ranged from 4 to 11 as shown in table 4.

Table 4. Household size of the respondent

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	4	5	14.3	14.3	14.3
	5	6	17.1	17.1	31.4
	6	2	5.7	5.7	37.1
	7	9	25.7	25.7	62.9
	8	5	14.3	14.3	77.1
	9	3	8.6	8.6	85.7
	10	4	11.4	11.4	97.1
	11	1	2.9	2.9	100.0
	Total	35	100.0	100.0	

Source: Researcher's matrix

#### 4.5 Income levels.

The level of income for the majority of respondents ranged from TZS 100,000 - 200, 000, 300,000-400,000 and over TZS 500,000 as shown in table 5.

Table 5. Income levels of respondents in Tanzanian Shillings

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	100000-200000	8	22.9	22.9	22.9
	200001-300000	4	11.4	11.4	34.3
	300001 - 400000	8	22.9	22.9	57.1
	400001 - 500000	6	17.1	17.1	74.3
	Over 500000	9	25.7	25.7	100.0
	Total	35	100.0	100.0	

Source: Researcher's matrix

#### 4.6 Water consumption

The requirements of water for the household ranged from 200lt to 1200 per day, majority consumes between 400-600 liters as shown in table 6 below.

Table 6. Water requirement of the households in liters

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	200	1	2.9	2.9	2.9
	300	3	8.6	8.6	11.4
	400	13	37.1	37.1	48.6
	600	11	31.4	31.4	80.0
	800	1	2.9	2.9	82.9
	1000	2	5.7	5.7	88.6
	1200	4	11.4	11.4	100.0
	Total	35	100.0	100.0	

Source: Researcher's matrix

#### 4.7 Average distance to the water source.

The respondents were all situated within 1 km from the water project, as indicated in table 7 below.

Table 7. Distance of respondent to water sources.

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid 0-4km	35	100.0	100.0	100.0

Source: Researcher's matrix

#### 4.8 Ambition for training

In answering the question if they need any training regarding community issues; all respondents indicated that, they need training regarding water and other issues of community see table 8a & b below. Almost all of them had never attended training related to community projects management and sustainability

Table 8a. Community training attained by respondents

	Frequency	Percent	Valid Percent	Cumulative Percent
Attended training	1	2.9	100.0	100.0
Never attended any	34	97.1		
Total	35	100.0		

Source: Researcher's matrix

Table 8b. Response of respondents for training on water

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Need water Training	35	100.0	100.0	100.0

Source: Researcher's matrix

#### 4.9 Availability of the respondents

The response indicated that some of respondents are free to attend because are self-employed and do not need permission to participate in the training while others are employed thus need to get permission to participate, otherwise training should be conducted during weekends. See table 9a through 9c.

Also there are some who are not sure of attendance due the nature of their job, such as nurses.

Table 9a. Availability of respondents

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Saturday	20	57.1	57.1	57.1
Any time	15	42.9	42.9	100.0
Total	35	100.0	100.0	

Source: Researcher's matrix



Table 9b. Appropriate day for training

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Free	18	51.4	51.4	51.4
	Employed	17	48.6	48.6	100.0
	Total	35	100.0	100.0	

Source: Researcher's matrix

Table 9c. Appropriate time for training

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Afternoon	19	54.3	54.3	54.3
	Any time	15	42.9	42.9	97.1
	Not sure	1	2.9	2.9	100.0
	Total	35	100.0	100.0	

Source: Researcher's matrix

#### 4.10 Career of the respondents

The majorities (74%) of the respondents have got tertiary education and graduates are 25.7%. The level of education leads them to their respective carrier see table 10a and 10b

Table 10a. Education level of respondent

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Tertiary	26	74.3	74.3	74.3
University	9	25.7	25.7	100.0
Total	35	100.0	100.0	

Source: Researcher's matrix

Table 10b. Career of the respondents

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	2.9	2.9	2.9
Accounts	1	2.9	2.9	5.7
Administrator	2	5.7	5.7	11.4
Agriculturalist	1	2.9	2.9	14.3
Banker	3	8.6	8.6	22.9
Business	10	28.6	28.6	51.4
Clerk	1	2.9	2.9	54.3
Consultant	2	5.7	5.7	60.0
Engineer	2	5.7	5.7	65.7
Environmentalists	1	2.9	2.9	68.6
Finance	1	2.9	2.9	71.4
Lawyer	2	5.7	5.7	77.1
Nurse	1	2.9	2.9	80.0
Retired officers	4	11.4	11.4	91.4
Teacher	1	2.9	2.9	94.3
Technician	1	2.9	2.9	97.1
Ex- soldier	1	2.9	2.9	100.0
Total	35	100.0	100.0	

Source: Researcher's Matrix

Majority of respondents have got experience ranging from 5 years to 30 in their career refer to table 11

Table 11. Experience of the respondents

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	5	3	8.6		10.3
	9	1	2.9	3.4	13.8
	10	4	11.4	13.8	27.6
	14	1	2.9	3.4	31.0
	15	7	20.0	24.1	55.2
	16	1	2.9	3.4	58.6
	18	1	2.9	3.4	62.1
	20	7	20.0	24.1	86.2
	25	2	5.7	6.9	93.1
	30	2	5.7	6.9	100.0
	Total	29	82.9	100.0	
Missing	System	6	17.1		
Total		35	100.0		

Source: Researcher's matrix

#### 4.10 Limitations

It was not easy to prove the data obtained on income, because people are not quiet open in that area. There are several reasons for that, such as, fear for tax, robbery, contributions etc. But through matching the figures stated and observed physical conditions, the Researcher got a clue for some people.

## **CHAPTER FIVE**

### **FINDINGS AND CONCLUSION**

#### **5.1 Findings**

This chapter contains the findings from data analysis, which was used for suggesting the training areas.

#### **5.2 Areas of interests.**

From the above findings, the following were noted:-

- i. The community was not involved in preparation of project proposal;
- ii. The community had never been given any training regarding water;
- iii. Members perceives that , the water scheme is belong to the government;
- iv. The average household water consumption is high ( over 200lt per day);
- v. Income of the members are relatively better ( above 100,000);
- vi. Are ambitious to learn;
- vii. Education level of the community members is better;

The Researcher would recommend training to be carried out for the Management and community members who benefits from the water scheme, private sector, NGOs and technical team in order to attain the desired goal of their community water scheme.

### 5.3 Training needs

From the above study, following has been proposed as suitable training for the KIBEDEA community.

Table 12. Proposed training subjects

S/n	Subject/Topics	Purpose	Target group
1	Introduction to edible Water as: <ul style="list-style-type: none"> <li>• basic need</li> <li>• Diminishing resource</li> </ul>	To impart awareness of water necessity	Leaders and community members
2	Water supply& sanitation, ownership, pumps technology, Maintenance participation and related costs.	To impart awareness of planning and management of water, Educate and facilitate community to enable them manage operation costs.	Leaders and community members
3	Community involvement in planning , design , construction, operation and maintenance water	To impart communities with a feeling of ownership of sustainable water	Management

	facility, Water facility Monitoring and evaluation	supply scheme, and development	
4	Private sector participation in water management	Community to be educated on the importance of the private sector in the provision of rural water supply and sanitation	Management, private sectors located in the community
5	Gender empowerment	Create awareness, and empower women at different levels.	Management and community members
5	Rainwater harvesting	To educate and encourage the use of rain water harvesting technology	Management and community members

6	Financing community water Supply, accountability, institutional framework, co ordination and collaboration, monitoring and evaluation	Communities trained to pay the full cost of O&M, awareness to the communities on their roles and responsibilities, and developing monitoring	Management and community members
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Source: Researchers matrix

#### **5.4 Conclusion**

The KIBEDEA community based organization is the association of individuals among the community who decided to unite in order to get rid of poverty.

Despite their courage and readiness to fight poverty, they are lacking skills of harnessing individual capabilities for the betterment of their community.

The members should be equipped with appropriate organization skills and knowledge which will facilitate the mobilization of group members towards common goals.

Training on water management for Kijichi Beach community would be catalyst for development of other projects which are not yet implemented in their action plan.

Success of the Kijichi Beach water schemes will surely motivate community members to contribute and participate in other projects aimed at advancement of this community.

The pool of expertise and experience in diverse fields among the members of KIBEDEA need to be organized and stimulated so as to contribute to their community development.

It is important to remember that, their vision, would be attained if community members initiate their own poverty eradication projects, and external support comes as a supplement only.

Besides having individual expertise and vast experience in various fields; findings from this project has shown that members of Kijichi Beach community Based Organization need be trained in identified areas for their vision to be realized.



## **CHAPTER SIX**

### **IMPLEMENTATION OF THE RESEARCH FINDINGS**

#### **6.1 EXECUTIVE SUMMARY**

##### **6.1.1 Project title**

Water Training Proposal for KIBEDEA

##### **6.1.2 Contact person**

**Mr. Charles Mpangala** (Chairman)

##### **6.1.3 Organization name and address**

Kijichi Beach Development Association

P.O. Box 41409

Dar es salaam,

##### **6.1.3 Project target**

To impart knowledge that would lead to sustainable water scheme management for the benefit of community.

##### **6.1.4 Objective of the project**

The objective of the project is to impart skills which will enable the community to manage the water scheme sustainably and attaining high degree of gender sensitivity in water management at different levels.

### **6.1.5 Project summary:**

The Kijichi Beach Development Association was formed in 1997 with a vision of eliminating hardship that affected the community. This includes water shortage, poor roads, lack of schools and health facilities etc.

Through voluntary cooperation of community members, Temeke Municipal Council and World Bank they have acquired two water schemes among other successes.

The two deep- tube well water schemes, which should be sufficient for solving water problem in the area, are not providing water regularly. The problem was said to occur due to recurrent pump failure and lack of technical skills among the community members.

After conducting a research, it was found that; the community had never attended any training regarding management of sustainable water schemes. Therefore the Researcher with collaboration with the community suggests the training to be carried out for KIBEDEA in order to impart skills and build capacity for community water scheme sustainable management.

The training proposal was suggested, for the groups and individuals who are either providing services or benefiting from community water schemes; they include; (I) mechanics, service providers at water supply points, owners of restaurants and car wash, and other beneficiaries in Kijichi Beach community. All training participants will participate in the preparation of training schedules.

The following are covered in the proposal:

- Background, mission and objectives of KIBEDEA,
- Training methodology
- Target groups
- Trainers
- Duration of training
- Content of training
- Cost of training
- Training time frame and
- Budget for training

#### **6.1.6 Expected outcome:**

It is expected that the outcome of the training is sustainable management of water schemes, through better maintenance, improved customer service at water supply points and minimized wasteful use of water.

## **6.2 TRAINING PROPOSAL**

### **6.2.1 Introduction**

This training proposal is primarily aiming at facilitating the Kijichi Beach community acquire skills to manage their water schemes sustainably.

It is believed that, the training would build community capacity in the following areas;

- i. Planning scheme operations.
- ii. Proper management of water scheme.
- iii. Women empowerment in relation to water scheme operations.
- iv. Mobilization of resources for operation and maintenance.
- v. Monitoring and evaluation of community water schemes.

The expected impact of training at the community is reliability of water supply and of services which signifies the sustainability of the scheme; and hence serving as a model for the development of other schemes which are at different stages in the community.

## **6.3 Information of the organization**

### **6.3.1 Location**

KIBEDEA stands for Kijichi Beach Development Association.

It is located at the elevated area, popularly called Mtoni Kijichi in Temeke Municipal, and its population is estimated at 18000 people.

The Mzinga River is separating the area from Mtoni Mtongani in the South, in the East there is Indian Ocean, in the South there is Mbagala Kuu and Mwanamtoti while Mbagala Mission is neighboring the area in the West.

### **6.3.2 Background**

The history of KIBEDEA dates back to the celebration of the New Year for 1997, when the idea came from a group of participants in the midst of the party. After the party, they thought about forming a community organization, which would deal with community development, at least to reduce some community problems. They suggested forming a CBO, which would advocate for community development. On 7<sup>th</sup> January 1997, a group of 25 people did turn up to form KIBEDEA, (refer to Appendix 5) they drafted a constitution, and went ahead to be registered on 11<sup>th</sup> August 1997, their registration number is SO.9060, (refer to appendix 5).

### **6.3.3 Mission**

The mission of KIBEDEA is to eradicate poverty through promoting community initiatives.

### **6.3.4 Objectives of KIBEDEA**

The objectives of KIBEDEA are:

- iv. To coordinate and promote voluntary social development of Kijichi Beach community area and Up-country.

- v. To promote and upgrade living standards by improving social services including: education, water supply, health care, roads rehabilitation, and land –use and planning.
- vi. To promote development taking in account an environmentally sound development.

#### **6.4 Scope of the proposal**

The proposal will include; developing training modules, identifying trainers, preparing budget for training, delivery of the training, monitoring and evaluating the training.

#### **6.5 Training Methodology**

Training of the Kijichi Beach community will be undertaken in a participatory manner. The following factors will be taken into consideration;

- i. Availability of trainees
- ii. Adult learning philosophy
- iii. Cultural factors

By considering the above mentioned factors, the training and learning methods would be interactive and time for meeting will be arranged in consultation with trainees.

Training methods will include; workshops to be conducted by a resource specialist to convey information, new subjects, principles or theories and small group discussion. Method that allows learners to share their experience and ideas to solve the problem will be used; other methods are; demonstration, simulations and study tours.

## **6.6 Target group**

The target group for the proposed training includes KIBEDEA management and community members who are providing services at water supply centers, technicians for the water schemes, private sector, (bar, restaurants, shops, and car wash), NGO's and other community members who are benefiting from the water schemes.

## **6.7 Trainers**

The effective training requires competent and well qualified trainers, facilitators and water resource specialists.

Trainers are expected to come from:

- i. Ministry of Water and Livestock Development - for module 1 and 2,
- ii. Water Aid - for Module 4,
- iii. Rwegarulira Water Resource Institute – for Module 6 and module 7,

- iv Community Development Department at Temeke Municipal Council, for Module 3,
- V TGNP- for Module 5.

### **6.8 Duration and type of training**

The Kijichi Beach community needs to get short term training and skills upgrading on the management of community water schemes. Duration of the training will depend on the frequency and agreement between participants and trainers, but will range from one to two months for all modules.

### **6.9 Contents of training**

Training participants will be provided with relevant and specific training materials.

Proposed training for Kijichi Beach has seven modules as described below.

**Module 1:** Introduction to Water sustainable management

Participants: Community members, private sectors, water service providers, technicians and other community members who are benefiting from water scheme.



**Module 2:** Water pumps maintenance

Participants: Community technical team

**Module 3:** Community participation in planning, design, construction, operation and maintenance of water facility, water facility monitoring and evaluation.

Participants: Community leaders

**Module 4:** Private sector participation in water management

Participants: Private sector and community leaders

**Module 5:** Gender empowerment

Participants: All community members who are benefiting water from the schemes, technicians, community leaders, NGOs, private sector

**Module 6:** Rain water harvesting

Participants: Heads of households in the community (husband and wife or any single parent, (lady and gentlemen))

**Module 7:** Financing of community water supply and accountability

Participants: Community members and leaders

## 6.10 Training Modules

The outline of training modules are tabulated below in table 13

Table 13. The outline of training modules

<b>Module</b>	<b>TOPICS</b>	<b>Objectives</b>	<b>Target group</b>
1	Introduction to water management <ul style="list-style-type: none"> <li>• Water is basic need for our lives</li> <li>• Why should the water be used carefully?</li> </ul>	<ul style="list-style-type: none"> <li>• Enable the participant to explain the importance of water.</li> <li>• Enable the participants to discuss the advantages of using water carefully</li> </ul>	Leaders and community members
2	Pumps and Maintenance. <ul style="list-style-type: none"> <li>• What is water pump</li> <li>• Types of pumps</li> <li>• Pump maintenance</li> </ul>	Enable the trained members of community Technical Team to: <ul style="list-style-type: none"> <li>(i) Mention sequential steps in pump repair,</li> <li>(ii) identify types of pumps,</li> <li>(iii) Discuss problems</li> </ul>	Community Technical team

		related to lack of water facility maintenance.	
3	Community involvement in planning, design, construction, operation and maintenance water facility, Water facility Monitoring and evaluation.	Enable the participants to: discuss the advantages of involving the community in projects and facility management.	Management
4	Private sector participation in water management <ul style="list-style-type: none"> <li>• Definition of private sector</li> <li>• Role of private sector in the community</li> </ul>	Enable the participant to : <ul style="list-style-type: none"> <li>(i) Explain the role of Private sector in social service delivery.</li> <li>(ii) Discuss the importance of private sector participation in the community activities.</li> <li>(iii) Explain the roles to be played by private sectors in contributing to sustainability of water supply services.</li> </ul>	Management and private sectors located in the community

5	<p>Gender Empowerment</p> <ul style="list-style-type: none"> <li>• Definition of gender</li> <li>• Advantage of gender empowerment</li> </ul>	<p>Enable the participants to:</p> <p>(i) Define gender and gender empowerment.</p> <p>(ii). Discuss the advantages of gender empowerment.</p>	<p>Management and community members</p>
6	<p>Rainwater harvesting</p> <ul style="list-style-type: none"> <li>• Rainwater harvesting methods</li> <li>• Advantages of tapping rainwater for domestic use</li> </ul>	<p>Enable the participants to:</p> <p>(i) Describe different methods used to harvest rainwater.</p> <p>(ii) Discuss the advantages of harnessing rainwater for domestic use.</p>	<p>Management and community members</p>
7	<p>How to sustain water scheme.</p> <ul style="list-style-type: none"> <li>• Community participation in water scheme</li> <li>• Accountability</li> <li>• Customer care</li> <li>• Constant monitoring</li> </ul>	<p>Enable the participants to:</p> <p>(i). Discuss participation of the community in financing the water scheme operations.</p> <p>(iii ) Discuss the advantages of accountability, and efficient</p>	<p>Management and community members Taps attendants</p>

	and evaluation	collaboration  (iv) Describe the arrangement for monitoring and evaluation of their water schemes.	
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Source: Researcher's matrix

### 6.11 Cost and financing of training

The budget for training activities covers the following;

- i. Production of training materials and stationery
- ii. Morning and afternoon tea/coffee
- iii. Secretarial services
- iv. Hiring of hall and facilities such as projector and flip chart stand
- v. Contingency

(See table 15 below)

It is expected that, all organizations which are dealing with training in the areas of proposed modules, will be approached. To start with, organizations which

have shown the possibility of providing assistance will be approached. These includes; TASAF, Temeke Municipal Council, CIDA and Water Aid.

#### **6.12 Training time frame**

The implementation will last for one month, with flexibility margin of another one Month, as the training will be participatory.

Table 14. Training schedule

s/n	Item	Description	Duration (Hours)	Dates	Year
1	Module 1	<p>Introduction on Water; as a basic need and as a diminishing resource.</p> <ul style="list-style-type: none"> <li>• What is water</li> <li>• Types of water</li> <li>• Water sources</li> <li>• Water availability in relation to population growth and environment pollutions</li> </ul>	8	First week of July	2005
2	Module 2	<p>Water pumps, Fittings and maintenance</p> <ul style="list-style-type: none"> <li>• What is a water pump</li> <li>• Types of pumps</li> </ul>	8	First week of July	2005

		<ul style="list-style-type: none"> <li>• What is water fittings</li> <li>• Maintenances of pumps and fittings</li> </ul>			
3	Module 3	<p>Community involvement in water scheme management</p> <ul style="list-style-type: none"> <li>• Planning</li> <li>• Design</li> <li>• Construction</li> <li>• Operation</li> <li>• Maintenance</li> <li>• Monitoring and evaluation</li> </ul>	8	Second week of July	2005
4	Module 4	<p>Private sector participation in water management</p> <ul style="list-style-type: none"> <li>• What is private sector</li> <li>• Roles of private sector in water scheme sustainability</li> <li>• Water in relation to the growth of private sector</li> </ul>	8	Second week of July	



5	Module 5	<b>Gender empowerment</b> <ul style="list-style-type: none"><li>• Definition of gender</li><li>• What is gender empowerment</li><li>• Advantage of gender empowerment in relation to water management</li></ul>	8	Third week of July	2005
6	Module 6	<b>Rain water harvesting</b> <ul style="list-style-type: none"><li>• What is rain water harvesting?</li><li>• Methods of rain water harvesting</li><li>• Advantages of rainwater harvesting</li></ul>	8	Third week of July	2005

7	Module 7	<b>Sustainable water scheme</b> <ul style="list-style-type: none"><li>• Community participation in bearing running cost</li><li>• Fund rising for maintenance cost</li><li>• Accountability</li><li>• Water customer care</li><li>• Proper recording of income and expenditure</li></ul>	8	Fourth week of July	2005
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**Source: researcher's matrix**

### **6.13 Monitoring and evaluation**

The executive committee of KIBEDEA will make a follow-up on implementation of the program.

The following indicators will facilitate monitoring and evaluation;

- i. Number of people who attended the course
- ii. Level of understanding after every course, which will be measured by the ability to answer questions posed to the participants (refer to appendix 2b)
- iii. Punctuality in classes (this will measure the morale and training material coverage among the participants).

Attendance, time keeping, and ability of the participants to answer questions after respective training module, (refer appendix 2b) will be recorded. Data obtained will be used for measuring the training goals (refer to table 13)

Trainers in collaboration with KIBEDEA management will develop a simple mechanism such as charts, which will be used for recording the events which will be used to measure the training outcome, these would include:

- Participation in discussion for community matters,
- Contribution for maintenance costs

- Level of customer service at community supply centers ( assessing the customer satisfaction)
- Frequency of pump failure and time taken for repair
- Availability of the community members to the voluntary works and contribution.
- Number of community members who are harvesting rainwater.

The indicators and period for evaluation of the above motioned areas will be discussed by the trainer and community leaders.

## 6.14 Training budget

The detailed budget is tabulated below.

Table 15. Training budget for KIBEDEA

S/n	Description	Unit	No. of people	No. of days	Unit cost	Quantity	Extended cost
1	<b>Trainer 's expenses</b>						
	Travel allowance	Day	1	7	20,000	7	140,000
	Lunch	Day	1	7	5000	7	35,000
	Tea/coffee	Day	1	7	2000	7	14,000
2	<b>Participant's expenses</b>						
	Tea/coffee	Per Day	40	7	2000	1400	560,000
3	<b>Stationery</b>						
	Notebook	Pc	40		500	40	20,000.00
	Pen	Pc	40		200	40	8,000.00
4	<b>Module preparation and handout</b>	Pc	7		100,000.00	7	700,000.00
5	<b>Hall hiring</b>	Pc per day	1	7	30,000.00	1	210000
6	<b>Projector hiring</b>	Pc per day	1	7	10,000		70,000.00
	<b>Total</b>						<b>1,757,000</b>

Source: Researcher matrix

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