

Final Research Report

**A STUDY TO ASSESS ENVIRONMENTAL
EDUCATION NEEDS OF THE URBAN
COMMUNITIES IN TANZANIA USING THE
COMMUNITY BASED APPROACH: THE CASE
OF MBAGALA AND VINGUNGUTI
COMMUNITIES IN DAR ES SALAAM.**

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(i)

Abstract

This study was undertaken on the understanding that as urban areas become more populous and their resources decrease, environmental problems such as waste disposal, sanitation, water supply, drainage, housing and soil erosion and urban poverty are increasingly becoming evident.

In order to understand, appreciate and alleviate increasing complex urban environmental problems, appropriate environmental education (EE) programmes are needed.

This study employed a community based approach to assess environmental education needs of two communities in the city of Dar es Salaam, Tanzania. The study found out that although urban communities have similar environmental problems, priorities for environmental education programmes are different for each community. This study advocates a community based approach to environmental education, which increases opportunities for the communities to make decisions regarding their EE activities for the betterment of their lives.

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A STUDY TO ASSESS THE ENVIRONMENTAL EDUCATION NEEDS OF THE URBAN COMMUNITIES IN TANZANIA USING THE COMMUNITY-BASED APPROACH: THE CASE OF MBAGALA AND VINGUNGUTI COMMUNITIES IN DAR ES SALAAM.

1.0 Introduction

As the 20th century comes to a close, concerns with the environment and its links to human development are growing. There is a recognition that as people strive to raise their standard of living, they sometimes adopt many environmentally destructive practices. The closure of the century also witnesses more urban population growth throughout the world, than ever before (UNDP 1991). As cities become more populous and their resources decrease, there are growing concerns with environmental issues like waste disposal, sanitation, water supply, drainage, housing and soil erosion. Urban poverty is increasingly becoming a centre of attention for national and international organisations. A closer look at the urban dwellings reveals their inherent complexity and contradictions. The UNDP (1991) describes the cities as being:

....full of contradictions for human development.
They offer community and anonymity; the
opportunity for advancement but the fiercest
competition; the deepest crises but the greatest
innovations to cope with them. Cities are centres of
growth and wealth- and of need and poverty (P. 45).

As a response to these destructive activities the World Commission on Environment and Development (WCED 1987) advocates "sustainable development", which means development that meets the needs of the present without compromising the ability to meet those of the future. This call by the WCED stresses the need for environmental education (EE) for

all. Environmental education would promote not only increased concern about the environment and its associated problems, but also an active involvement in finding solutions to current problems and the prevention of new ones. Thus, in order to understand, appreciate and alleviate increasing complex urban environmental problems, appropriate environmental education (EE) programmes are needed.

The environmental situation in Tanzania is no exception. In Tanzania, problems of environmental degradation are felt in both rural and urban areas (Sc 1990; URT 1991; Bakobi 1992). Regarding urban areas, it has been contended (Bakobi et al. 1992) that rapid unplanned and uncontrolled urban growth and industrial development bring about pollution of water, air and soil. These reduce the quality of life and increase health hazards especially for the poor.

In 1983, Tanzania established a national body - National Environment Management Council (NEMC) with a statutory mandate over environmental issues. One of the major function of NEMC is to oversee and undertake or promote general educational programmes for the purpose of creating an enlightened public opinion regarding the environment, and the role of the public in its protection and improvement. In 1993 NEMC proposed an environmental education policy which aim at integrating EE in all aspects of education curriculum. At the same time the Ministry of Education proposed "Community-Based Education" as part of Tanzania's Integrated Education and Training Policy *

*The final draft of "Integrated Education and Training Policy" was reviewed and the education policy that was produced in 1995 is known as Tanzania's " Education and Training Policy"

Community-Based Education (CBE) programmes aim at empowering people at the grass-root to make decisions regarding their educational activities at all stages of curriculum development.

This study took a community-based approach to assess and analyse environmental education needs of resident of urban communities of Mbagala and Vingunguti wards in Dar-es-Salaam, Tanzania. The purpose of the study was to examine implications of the approach to the proposed policy of "Environmental Education" proposed by the National Environment Management Council (NEMC) in Tanzania (URT 1993).

The study, undertaken on the understanding that educational needs assessment is a basic component in the development of educational programmes, provides a practical example of a community-based approach to educational needs assessment on the basis of which a module of environmental education programmes in the respective urban communities could be developed.

The basic assumption upon which this study rests is that communities are neither uninterested nor ignorant of their local environment. They have some knowledge of their environmental problems; and are interested and eager to learn more about their environment for the betterment of their lives. Thus communities are capable of identifying environmental education needs and setting priorities for programmes suitable for their community.

2.0 Review of Related Literature

This section examines the views and findings of other writers on the two main concepts basic to this study, namely; Community-Based Education (CBE) and Environmental Education (EE).

2.1 Community-Based Education (CBE)

The concept of Community Based Education (CBE) has been variously used and explained by different people. Tunsiri (1989) contends that CBE is an abstract conceptual framework that was derived from the learning typologies which were proposed by Y. Bertrand namely; the institution centred model, the person centred model and the society centred model. The institution centred model treats learning as a process, storage and retrieval of information; while the person-centred model based on the humanistic perspective put the main emphasis on individual growth, on the personal significance of learning experience and on motivation of the learner. The society centred model on the other hand is based on social action and social interaction approaches. According to the society centred model, the main role of education activity is to bring about change in society, in social structures and institutions. Tunsiri (1989) observes that the Delsilife (Development of Co-ordinated Educational Intervention System for Improving the Quality of the Rural Poor Through Self-reliance) projects of Indonesia, Thailand and the Philipines are examples of a society-centred model at the community level.

The aim of Delsilife is self reliance through education. Community members are organised into problem solving groups led by their own leaders with government agencies acting only as facilitators. Group discussions, assisted by resource persons made available by different

agencies, have to decide upon certain courses of action for economic and social activities. In Thailand the model of Delsilife is extended to most provinces under the name of "Quality of Life Promotion Project (Tunsiri 1989). According to Tunsiri, Community Based Education (CBE) would fall under the society centred model.

The available literature also suggests that CBE would connote different meanings in different contexts. Kweka (1994) contends that CBE has been expressed in various ways depending on the social, political and economic conditions of society. In most cases however, the concept has been referred to as an approach to provision of education which is relevant to the community. The difference has been how and who decides what is relevant to the community and for what purpose. Thus for the colonizer, community based education would mean provision of skills and values which are relevant to the colonial society (Great Britain 1935:9), a dependant society which is complacent to its colonial master (Kweka 1994; Nyerere 1967). Accordingly, the colonial master controls the decision making process at all stages of the education programme. This is typical of what has been generally described as a "top down" approach to CBE (Nyerere 1967; Mathryn 1979; Kweka 1994; Mbilinyi 1994). Such a CBE approach is decried for being not only unsustainable but also against development as it dehumanises the participants.

The bottom up CBE approach, which this study endorses, aims at people's self-liberation; based on the philosophy of self-reliance. In this approach members of the community have control of their educational programmes. Community members need to be able to identify their educational needs, analyse them and decide what action to take. As Mathryn (1979) puts it:

The program of community education for self-reliant development is explicitly political necessarily involved in the analysis of power in the community... If the aim of such education is liberation empowering people to be subjects and not objects of history a process congruent with that aim is demanded. Content must be derived from the life and experiences of the people. This implies educational praxis, action-reflection-action cycles determined by the themes and priorities of the community (P.10).

It is worth noting that proclaiming the philosophy of self-reliance is by itself not enough for carrying out a sustainable community based education programme. It has, for example been noted (Mathryn 1979, Mbilinyi 1994, Kweka 1994) that in the implementation of Self-Reliance projects in Tanzania people at the grass-root were not empowered to carry out their own liberation in practice. People were told what to do and there was no opportunity for them to assess, analyse and take action on issues that affected their lives. It has been argued (Ishumi 1981) that the decline of many community education programmes in Tanzania was due to top down approaches employed by programme organisers .The approach denied participants the confidence and opportunity to be heard, hence was susceptible to suspicion and disenchantment in the long run.

Thus Ishumi (1981) asserts that the fundamental reason for the decline of community education programmes such as adult literacy

...is related to the initial approach the development officers have taken in convincing and orienting their potential mass participants clientele toward development. It has been paternalistic and policing in the sense that the officers have played the role of "extending" knowledge and skills to an "ignorant" clientele and have therefore been viewed by the prospective learners with suspicion. The approach has also been deceitful and manipulative, as the

officers have frequently promised the "ignorant" rural population rewards which have either not been forthcoming or have been too much beyond reach to sustain motivation and performance (p.19).

Currently in Tanzania many international organisations and local non-governmental organisations (NGOs) are putting more emphasis on community based education as a way of solving various socio-economic problems of the masses. Kweka (1994) asserts that this move is encouraging as it has come at a time when all other prescriptions for development have failed and the living conditions of the masses continue to deteriorate. However he cautions that to accrue achievements through CBE the model must come from the communities we live and work with; and the subject matter should come from their social economic context and not from the school syllabi. In other words we should attempt to employ the bottom up approach to CBE.

Such a caution is very important because the success and sustainability of CBE programmes depend on the whole process of needs assessment, planning, implementing and evaluation of the programme. The bottom up approach to CBE provides opportunity, ability and confidence to the members of the community, necessary for their full participation at all stages of the programme.

The bottom up community based approach provides opportunity and empowers people at the grass-root level in the community to identify their educational needs, analyse them and decide what action to take, with people outside the community being either advisers or facilitators helping the members of the community to work towards their educational goals.

2.2 Environmental Education (EE)

No single definition of environmental education (EE) has been agreed upon. Bakobi (1992) contends that there are as varied versions for defining EE as there are schools of thought on environmental problems. The difficulties in the definition are mainly due to the interdisciplinary nature of the subject of environmental education (Lema 1991, Osaki 1991). However Lucas' (1980) categorisation of environmental education as education **about, in or for** environment provides a pragmatic and philosophical classification of environmental education (Bakobi 1992). Lucas (1980) contends that education **for** the environment develops affective skills; **about** the environment concerns cognitive understanding; and education **in** the environment is recognised as techniques of instructing through the use of biophysical as well as social, economic and cultural environment.

Jonkviel's (1977) denotes that Environmental Education:

...raises the awareness of the individuals to their responsibility for protecting and improving the environment so that they will make their individual or collective behaviour conform to the norms which will ensure a healthy environment and so will initiate and participate in actions to protect the environment promoted at local, national and international level (Jonkviel 1977, in Osaki (1983))

Knowledge about environment has for long been considered essential for survival of species. Osaki (1983) contends that stone age people had to learn what the environment around could offer and turn it into their own use. Wild fruits, roots and some leaves were used as food and drugs while stones were used as matches, chairs, etc. Traditional education has enabled people to study their immediate environment knowing names and all important species they could observe.

NEMC (1992) asserts that as people continue to manipulate the environment for their production and consumption, the state of environment has continued to deteriorate to the extent of arousing concern, especially in the matters of natural resources, habitat, wealth and quality of life. Because of such concerns, Osaki (1983;1991) argues that militant groups such as ecology or green parties; the peace movements and campaigners for disarmament; have been exerting pressure on the governments of the world to take steps that would save the environment from deterioration.

The UN conference on Human Environment which was held in Stockholm, Sweden in 1972 was an important landmark for EE (Osaki 1991, Chonjo 1992). Recommendation 96 of the Stockholm Conference urges concerned international agencies especially UNESCO, after consultation and agreement, to take necessary steps to establish an international programme in environmental education (UN 1972). As a follow-up to this recommendation, the first EE conference on global scale was held at Tibilis, Turkey in 1977 (Osaki 1991, Chonjo 1992, Bakobi 1992). This was an important inter-governmental conference on strategies for environmental education (EE). The Tibilis conference marked the culmination of the first phase of the UNESCO-UNEP International EE Programme. The conference's declarations and recommendations have constituted the framework for environmental education at all levels. Thus proposals for agenda 21 of the UN conference on Environment and Development which was adopted by the plenary in Rio de Janeiro, Brazil on 14 June, 1992 were based on declarations and recommendations of the Tibilis conference. Agenda 21 centres on promoting education, public awareness and training.

In 1987 at a the UNESCO-UNEP conference held in Moscow, Russia, the World Commission on Environment and Development (WCED) defined the concept of "sustainable development as "...Development that meets the needs of present without compromising the ability to future generation to meet their needs (Osaki 1991). This definition, though vague and cosy has provided a link between the environment and development. There has been a growing acceptance of the argument for example, that environmental problems cannot be dealt with without first meeting the development needs of the poor. Some people degrade their environment because of poverty; because they need shelter, or firewood or food. Yet there are environmental limits to the development process. Chonjo (1992) asserts that despite all the preventive (educational) and curative (rehabilitation) measures taken the problems of the environment seem to persist world wide. Thus there is a need for each to understand environmental issues, hence contribute towards sustainable development.

In Tanzania problems of environmental degradation are felt in both rural and urban areas (Sc 1990, URT 1991, Bakobi 1992). In rural areas land degradation due to agricultural practices and poor land policies endanger the generative capacity of soils, vegetation and forest cover, and water resource. Rapid unplanned and uncontrolled urban growth and industrial development on the other hand bring about pollution of water, air and soil. These reduce the quality of life and increase health hazards mainly for the rural and urban poor (Bakobi et al 1992).

In 1983, a national body with a statutory mandate over environmental issues was established by the act of parliament no. 19 of October 1983. The body, National Environment Management Council (NEMC) became operative in 1986. One of the major function of NEMC is to oversee and

undertake or promote general educational programmes for the purpose of creating an enlightened public opinion regarding the environment, and the role of the public in its protection and improvement.

Research findings (Chonjo 1992, Rajabu 1992, Osaki 1983) on environmental awareness have indicated that there is a low level of awareness among school pupils, teachers and surrounding communities in Tanzania.

In 1992 a committee of experts from the Ministry of Lands, Natural resources and Tourism (MLNT) and NEMC undertook an exercise of reviewing school curricula and various syllabi and made recommendations to the Ministry of Education and Culture (MEC) and the Institute of Curriculum Development for consideration. The recommendations of the committee revolved on integrating environmental education in various school subjects. However many writers (Bakobi 1992, Osaki 1991, Chonjo 1992) propose more research on environmental education (EE) issues.

2.3 An overview

The review of related literature indicate that provision of capital investment and adequate infrastructure, or having legislative measures and other suitable steps identified at the top is not sufficient to set the development process in motion if the people concerned resent and show no interest in the programmes prepared for them and refuse to co-operate (Ishumi 1981, Kater et al 1992, Mbilinyi et al 1992; URT 1993; Bakobi 1992; Kweka 1994; WHO 1991).

It has been contended (Ishumi 1981; Mathryn 1979; Mbilinyi 1993; Kweka 1994) that the fundamental reason for the decline of community education

programmes in Tanzania was related to the paternalistic and policing approach the development officers had taken in convincing and orienting their potential participants toward development.

The literature also reveals that the environmental education campaign in Tanzania also fell in the same category. It has been observed (Osaki 1983; Chonjo 1992) that the programmes such as *Mtu ni Afya* (A Person is Health) *Kilimo cha Umwagiliaji* (Irrigation Agriculture), *Chakula ni Uhai* (Food is Life) and *Miti ni Mali* (Trees are Wealth) have ended at sloganeering with less impact on real health, reforestation or agricultural production.

Community based approach to education has been proposed as a remedial measure to the existing educational problems (SIDA 1992; URT 1991,1993; Kweka 1994) especially to the apathy that is exhibited by the people towards development programmes set for them. The *community Based* approach which can correct this situation should emphasise *development from below*. This is expected to enable the people assess, analyse and take action on issues affecting their lives. Thus the basic assumption in this study is that people should have the confidence and opportunity to take a lead in EE programmes in their communities.

3.0 The Problem, Scope and Significance of the Study

3.1 Statement of the problem

Environmental education has been put on the agenda by the need for increased awareness amongst all people so that they be informed about the nature and implication of human impact on the environment and how as

responsible members of society, they could play their respective role in minimising and or solving the environmental problems.

Most of the time however, environmental education programmes and efforts are directed towards rural agricultural activities, to the utter neglect of glaring urban problems which are on the rise. As urban areas become more populous and their resources decrease, there are growing concerns with environmental issues like waste disposal, sanitation, water supply, drainage, housing and soil erosion. Urban poverty is increasingly becoming evident. Thus appropriate environmental education (EE) programmes are needed to foster the understanding, appreciation and alleviation of increasing complex urban environmental problems.

In order to carry out sustainable EE programmes however, members of the community have to identify and assess their needs for environmental education and set priorities for training programmes in their community.

This study aimed at facilitating efforts of the urban communities of Mbagala and Vingunguti areas in the city of Dar es Salaam, Tanzania in assessing the environmental problems facing them and determining the knowledge gap that needs to be addressed by environmental education. The communities would also set priorities for environmental education programmes suitable for their respective community.

3.2 The purpose of the study

The purpose of the study was to work together with the residents of Vingunguti and Mbagala wards in identifying viable and realistic environmental education programmes that can facilitate a merger between

knowledge and practice to ensure sustainable development in their respective communities.

3.3 Objectives

The objectives of this study were:

3.3.1 to determine the environmental problems facing Vingunguti and Mbagala communities.

3.3.2 to determine community members' involvement in local and national environmental issues;

3.3.3 to determine the residents' felt environmental education needs and their proposal for environmental education programmes in their communities.

3.4 Research Questions

This study addressed the following questions:

3.4.1 What environmental issues were of concern to the residents of Mbagala and Vingunguti areas in Dar es Salaam city?

3.4.2 What activities indicated that the residents of Mbagala and Vingunguti cared about the environment?

3.4.3 What are the environmental education needs as envisaged by the residents of Mbagala and Vingunguti?

3.4.4 What priorities did the residents of Mbagala and Vingunguti set for the environmental education programmes they identified?

3.5 Significance of the study

Since this is an action-oriented study, it provides a practical example to educators, environmentalists, environmental educators and policy makers of how educational needs assessment can be carried out to achieve the objectives of an integrated community-based, environmental education proposed by the Ministry of Education and the National Environmental Management Council (NEMC) policies.

The study is also significant because it aims at enabling residents to become more conscious of environmental hazards in their communities and propose practical solutions for them.

Further, the study contributes towards enriching the knowledge that researchers and academics have on the community based Education (CBE) approach and environmental education issues in urban settings.

4.0 Definition of Terms

4.1 *Community-Based Education (CBE)*

For the purpose of this study, "Community-Based Education" refers to an approach of providing education which empowers the people at the grass-root level in their community to identify their educational needs, analyse

them and decide what action to take; while people outside the community are either advisers or facilitators helping the members of the community in achieving their educational goals.

4.2 *Environmental Education(EE):*

In this study Environmental education denotes education that will raise the awareness of the individuals to their responsibility for protecting and improving the environment so that they will, through their individual or collective behaviour, ensure a healthy environment.

5.0 Limitations

5.1 While the approach (action-oriented community based research) can be replicated to other areas, the results of this study may not render themselves easily generalizable.

5.2 Both the study areas are urban areas, therefore environmental issues peculiar to rural areas are not addressed by this study.

6.0 Design and Methodology of the Study

This section consists of the description of the research area as well as the population for this study. The approach to the study, including data collection and data analysis techniques, is also discussed.

6.1 Population and Description of the Research Area

The population for the study was confined to residents of Vingunguti and Mbagala wards in the city of Dar es Salaam, Tanzania. These two wards

were selected because of their previous reaction to an environmental issue of solid waste disposal. While the Mbagala community had shown resistance and opposed the City Council's overtures to create a dumping site ("dambo") in their vicinity, the move was welcomed by residents of Vingunguti ward who allowed the "dambo" to be developed there.

a) Mbagala Community

The Mbagala community comprise of residents of Mbagala ward, in Temeke district. Temeke district is one of the three districts of Dar es salaam city in Tanzania; others being Ilala and Kinondoni districts. Administratively Mbagala is divided into 10 Counties (Mitaa), divided according to the Local Governments Administration structure. The Counties (Mitaa) are Mbagala, Kizuiani, Makuka, Kizinga, Mangaya, Kiburugwa, Mbagala kuu, Kichem chem, Mtoni Kijichi, Mwanamtoti. Mbagala has 3 primary schools and one private secondary school; the construction of a community secondary school had just started. There are adult education centres located within the compounds of the 3 primary schools in the community. Regarding health facilities, there are 9 dispensaries of which 8 are private. People get their amenities and provisions mainly from one market place at Kizuiani and 2 stalls at Kibonde Maji and Kizinga. There is a primary court and 2 police posts with 4 more police post under construction.

Mbagala community had, according to the 1988 census, a total population of 43,443 people. Of these, 19,364 are women and 23,995 are men. However, according to the residents there has been an upsurge of immigration into the area in recent years such that the population may have doubled or even trebled by now.

b) Vingunguti Community

The Vingunguti community comprises all residents of Vingunguti Ward in Ilala District in Dar es salaam, Tanzania. Vingunguti extends between Msimbazi valley and Pugu Road, as well as Buguruni and Ukonga. Administratively, Vingunguti is divided into 5 counties (Mitaa), Mtakuja, Miembeni, Kombo, Karakata and Mtambazi. It had one clinic and seven small private dispensaries. There are several small stalls and one big stall near Pugu road. There is also a big goat market (the biggest in the city) and a solid waste dumping site ("dampo").

In some parts of Vingunguti ward houses are close together and water is standing between the houses. Most of the roads in the ward are made of earth roads and pot-holed.

Vingunguti ward has a population of approximately 50,000 people. Like their counterparts in Mbagala, the residents indicated that they believed the population and its composition has increased since the last census in 1988.

6.2 Approach to the study

The approach to this study was based on the main assumptions in the Community-based education (CBE). The basic principle in "Community-Based Education" is to provide for education that empowers the people at the grass-root level, in their community, to identify their educational needs, analyse them and decide what action to take; while people outside the community are either advisers or facilitators helping the members of the community in achieving their educational goals. In this study community

based approach that emphasises development from below was used. Through this approach the residents of Mbagala and Vingunguti wards identified their needs and set priorities for environmental education programmes in their communities. The researcher's role was to register participants' concerns and facilitate the assessment rather than to direct it.

The research activities were carried out in a flexible and patient manner. The participants were asked to choose where and when it was convenient for them to meet and discuss with the researcher. Some of the meetings were previously arranged by the community leaders, while others were spontaneous. Sometimes during the conversation a participant would call in some neighbours and the discussion would continue. During some meetings the researcher and the participants moved to the scene and observed the environment while the discussion continued.

6.2 Data Collection Techniques

Various data collection methods were employed in order to get a widest possible range of opinion and statement of needs. The data collection techniques included visits, document review, interviews, group discussions and observation.

a) Visits

The researcher visited local authorities, participants' homes, various sites and the research area in general. Visits to the local authorities were done on the realisation that it is important to enter the community through community leaders so as to establish support of the community authority. Through such visits, the researcher familiarised herself to the community

leaders who in turn introduced her to the members of the community (see community leaders notes in Appendices D & E). This technique also helped in obtaining data regarding the community profiles.

Visits to the community members' homes provided opportunity for the members of the community to participate in the research activities without necessarily disrupting their major activities. These visits also helped both the researcher and the members of the community to observe some environmental problems (e.g. soil erosion) within the community together. For example, discussions on the solid waste disposal in Vingunguti, were done on the dumping site.

b) Document Review

The review of documents mainly found at the office of the Ward Executive Officer (Katibu Mtendaji wa Kata) provided information on the profile of the communities.

c) Interviews

Both structured and unstructured interviews (see appendix A) were used to ensure that the opinions of various members of the community including their leaders are registered. To ensure that both the communities were equally represented a stratified sampling procedure was employed. The study was done in both Mbagala and Vingunguti communities. Gender balance was ensured by interviewing more women at their homes because more men than women attended the meetings. Thirty participants from each community were interviewed. Community leaders including government officials, leaders of institutions such as schools, dispensaries, the primary court and educators were selected to participate in the interviews through

purposive sampling procedure. Party leaders were left out to avoid party politics which might have had unforeseen impact on the research since the country was preparing to hold her first multi-party elections, in October 1995.

Interviews were carried out at the time and venue convenient to the interviewees, during which time they would invite anyone they wanted be present.

Interviews were used to collect data that was analysed to determine residents' knowledge and involvement in environmental issues. Interviews were also used to obtain the residents' felt needs for environmental education and proposals for environmental education programmes.

d) Focused group discussions

During focused group discussions, the communities' felt needs and their proposed environmental education programmes were discussed. These group discussions included community meetings organised by the community leaders, social services providers and neighbourhood groups.

e) Observation

Observations were done mainly to assess the local environmental conditions. Observations were done by the researcher as well as by the community members. During the meetings some of the problem areas were observed and assessed by the meeting participants. Members of the community members and the researcher would also deliberate on some of

the environmental issues they have observed, during conversations and discussions.

7.0 Data Presentation and Analysis

In this section, data obtained in the study is the presentation and analysis according to:

Environmental problems identified by each community; community members' involvement in environmental issues (especially in attempt to solve particular environmental problems); environmental education needs identified by residents; as well as each community's priorities for environmental education programmes. Data from each community is presented and analysed separately to ensure clear understanding of each community's needs and priorities, with comparative analysis were necessary.

7.1 Environmental problems as identified by Members of Mbagala Community and their involvement in combating them.

The following is the presentation of the environmental problems that were identified by the members of Mbagala community.

7.1.1 Soil erosion

Soil erosion was identified by members of Mbagala community as the most pressing environmental problem in their community. Areas that were very much affected were along the "*Shimo la Mchanga*" (Sand Pit) weather road and between the Kilwa Road and the abattoir. It was observed that the houses near the *Shimo la Mchanga* weather road were threatened by a big

gully. The community showed concern that some of the houses already had big cracks. Figure 1 in appendix B contain photographs of some of the houses that have been affected by soil erosion.

Through discussions, at the meetings, interviews and conversation participants identified the causes of the soil erosion to include rain water, big trucks, poor drainage system and animals. They pointed out that the gully on "*shimo la mchanga*" road was caused by torrent water from heavy rainfall and big heavy trucks used to ferry sand from the sand pit. They said that soil erosion between Kilwa road and the abattoir was caused by animals especially cows headed for slaughter.

The community was taking several steps to combat the soil erosion problem. Among the steps taken were attempts to protect the houses near the affected areas. The owners of the houses were using sand sacks (*magunia yenye mchanga*) to protect their houses with very limited success. Figure 2 in appendix II depicts some of efforts of members of Mbagala community to protect their houses from the effects of soil erosion, using sand sacks.

Another way of community involvement was through holding meetings to discuss the problem and explore viable solutions for soil erosion. During the research period a meeting was held to discuss the soil erosion problem at the Mbagala County Secretary's (*Katibu wa Mtaa wa Mbagala*) home. At the meeting some of the participants suggested that they should put a road-block and prevent vehicles from using that road. However this was found not feasible since there were people to whom Shimo la Mchanga road was the only outlet to the main road. Others suggested that they could use the solid waste from the Kizuiani market to cover the gully, but this

idea was rejected on grounds that the waste would decompose as well as pollute the air (*kuchafua mazingira*). Some participants also feared the garbage would be carried to Kizinga stream that was one of the sources of water supply for the residents and the city.

There was also a suggestion that bulky metal waste could be used. The debate lingered on how the residents would transport such amount of cargo to the area. Making people with cars who use that road pay some kind of road-toll would be burdensome to the members of the community with vehicles who lived in that part of the ward. The legality of introducing road-tolls was also put into question.

Another suggestion was that the community leaders present the issue to government authority ask the government to help them with the transportation and the members of the community would spread the waste in the gully through self-help efforts.

As the debate was almost concluded one of the participants raised the question as to how permanent that solution would be, as most of the soil used to cover the metal waste will be carried away during the rainy season. "*Maji yana nguvu sana. Wakati wa masika mchanga wote utaondoka yabaki machuma matupu*" (Water is very powerful. During heavy rains all the sand will be washed away leaving bare metal). Said one of the participants. This re-opened the debate. Questions like "what would happen if the water would find another opening and make another gully?" Were raised.

In their frustrations mainly due to the fact that there seemed to be no clear solution to soil erosion problem facing them, some members raised the

questions as to "*Kwa nini serikali iliwapimia viwanja sehemu ya hatari? Je, watu watapata fidia kwa madhara waliyoyapata?*" ("Why were people allocated plots in those areas in the first place?" "Could people be compensated for the damage?".)

The chairperson explained to the researcher that people were allocated residential plots in the erosion-prone area, by the government.

"Viwanja hivi ni vya halali, Tumepimwa na city.Hati tunazo"(These plots were legally allocated to us. We have property deals) one member was heard saying.

It was finally agreed that while temporary steps to contain the problems were being taken, more technical information was needed. Participants wanted someone with expert knowledge on soils to study the situation and advise the community accordingly.

Another concern with soil erosion in Mbagala was the erosion caused by animals. The area affected by this kind of soil erosion is the area between the Kilwa Road and the abattoir. This issue was not openly discussed because some members of the community were benefiting from the activities at the abattoir. At least it created some employment opportunities in the community where unemployment was rampant. Some members of Mbagala community, especially those whose houses were at risk said that they were going to make the ward secretary call the meeting to discuss this issue. However this didn't happen during the study period.

7.1.2 Quantity and Quality of Water supply

Members of Mbagala community identified *Inadequate Water supply* as one of the central environmental problems in their community. They explained that water pipes in Mbagala ward were old and weren't supplying water. During particularly severe dry seasons the shallow wells that were built by the community would dry up completely and residents had to buy water supplied by vendors. The activity of getting drinking water was time consuming as well as expensive. Sometimes queues were so long that a person would spend more than three hours waiting for his/her turn. The price of one bucket of water ranged between 80.00 and 100.00 Tanzanian shillings. This is expensive because it was about 1% of the low income earner's monthly salary.

Some members of Mbagala community talked about the government plan to install new bigger water pipes. This plan was expressed as distant dreams.

When discussing the supply of water, the issue of *quality of water* was also brought in. Some members of the community said that they had to boil water before drinking it regardless of where it came from and how it looked. However, Some members said that they believed the water is clean and safe if it came from the tap and was clear. These believed tap water was good enough for drinking without boiling. They only boiled their drinking water if they were not sure of its source or if it was not clear. They did not believe that there was any difference between clean and safe water. The researcher discussed this attitude towards tap water with some members of the community. Most of them finally agreed that it was a problem because such people would drink contaminated water and were susceptible to diarrhoea and other diseases caused by contaminated water.

Members of Mbagala community were actively involved in stepping up their water supply and protecting sources of water. The community had built shallow wells (ring wells) for their water supply. During dry seasons the wells supplied water only early in the mornings and late in the evenings. There were always long queues at these wells.

Mbagala community members said they were always ready to protect their sources of water. They explained that one of the reasons why they did not want the dumping site in their vicinity was because they feared it would contaminate Kizinga Stream. Kizinga stream is one of the sources of water supply in Dar es Salaam city. This indicates that the Mbagala community acted responsibly to protect their source of water. The same consideration for keeping the sources of water clean was also discussed at the meeting (in Mbagala County) where they rejected the possibility of using solid waste as a solution to soil erosion.

7.1.3 Social Services

Lack of, or inadequate social services such as transport, housing, education and health was also identified as an environmental problem faced by Mbagala community.

Members of Mbagala community explained that although *transport* was better after the rehabilitation of the Kilwa Road, the road was narrow and had no provision for pedestrians and cyclists. They would have liked some "zebra crossings" at *Kizuiani Market* and *Mbagala Mwisho*. They said some members of the community had lost their lives while crossing the road. Some members expressed their appreciation for the road bumps which were used to check speed. However, they pointed out that some bus

owners were threatening to stop providing transport services to the area because the bumps were damaging their vehicles.

The fact that Kilwa Road was the only outlet to the city was also an issue. Some members of Mbagala community pointed out that if for any reason Kilwa Road was blocked they would be cut off completely; hence this made them feel insecure. Some parts of Mbagala did not have feeder roads. The community members said that they needed another outlet to other parts of the city as well as more feeder roads within the ward.

Another issue related to transport problem was that transport cost in the city was too high. Members of Mbagala community explained that transport cost was inhibitive to the low income earners and unemployed members of the community. They said that some people had to walk long distances because they could not afford paying the bus fare.

In Mbagala *education* was also discussed as an environmental problem. Participants said that the three primary schools in the ward were not enough to cater for all the children. The schools were over-crowded and lacked physical facilities as well as teaching materials. The community, through self help activities was trying to remedy the situation by constructing some classrooms, the task which was proving difficult. The incomes of the community members were not high enough for them to make substantial contributions. Thus the community resolved to appeal for government support to supplement their efforts.

In the meantime, members of Mbagala community were setting regulations on enrolments, especially in the first grade as the schools had long waiting lists. During the research period the Mbagala Kuu county

(*Mtaa wa Mbagala Kuu*) held a meeting to discuss the 1995 primary school standard one enrolments. At the meeting it was revealed that some of the community members did not adhere to the enrolment regulations. The meeting participants unanimously agreed that head teachers should let the public know the names of standard one enrollees before the beginning of the first term. "This would allow queries to be sorted out before schools start." The chair person explained. The Mbagala community had also started to construct a Self-help community secondary school in Mbagala ward.

Insufficient and poor housing was also sighted as an environmental issue by members of Mbagala community. People living in the crowded houses with poor sanitation or erosion-prone areas said that they would have relocated if they found better houses or rooms in other parts of the city.

Insufficient health services were also discussed as an environmental issue in Mbagala community. They commended the work of the MCH (Maternal and Child Health) clinics and dispensaries in their vicinity. However they complained that of late, the public dispensaries did not supply medicine to the patients. They complained that people have to buy even syringes. The community members also pointed out that the price of medication was going up. "*Kila siku naomba Mungu nisipatwe na gonjwa linalohitaji matibabu makubwa*". (Every day I pray to God to spare me from disease which need medical attention) said one lady during group discussion which was held at Mbagala MCH centre. '*Muhimbili bila mia tatu humwoni daktari*'(You need, 300.00 to see a doctor at Muhimbili hospital), she explained.

In conversations and group discussions the Mbagala community members pointed out that the "user pay" system was making it difficult for the poor and the unemployed to get medical attention.

However several community members also talked about preventive measures. They said that they were cleaning their surroundings, using mosquito nets so as to prevent diseases like cholera, diarrhoea and malaria. In a way they seemed to search for the cheaper way to keep themselves healthy.

7.1.4 Lack of Economic and Social Security (Poverty)

The lack of economic and social security was expressed variously by members of Mbagala community. One of the community members, during a focused group discussion with the youths said "*Maisha yetu ya mpunga, tukijikuna twatoka unga.*" (Meaning their lives were not secure). Later it was reiterated by other members of the community with various explanations such "*maisha ya mahangaiko*" (insecure life). In general they all referred to unemployment, lack of capital and poverty as one of the major problems in the community.

Members of the community explained that poverty forced some people to live in risky houses. They said that they could not afford to buy plots or even pay rent in better areas. So they had to stay in those houses although they felt insecure.

Some members, especially the youths explained that because they were not attending school and had no employment they were pointed out as loiterers or even thieves and this made them feel insecure. They said that were ready and willing to work but they couldn't find any jobs. *Ukitaka kuanzisha mradi, hata wa kuuza mkaa unahitaji mtaji*"(To be self employed one needed capital) they said.

Returning to the rural areas was always given as a solution to unemployment but did not seem feasible to these youths. Some of them said that the city is the only home they knew as they were born there, grew up there and had never gone to the villages. They did not know which village to go to and how to start life there.

"Wengine tumezaliwa hapa na kukulia hapa mjini. Hapa ndiyo kwetu, hatujui kijijini kwetu ni wapi na kwa vipi tutaishi huko?" (Some of us were born here in the city. This is our home. We do not know which village we belong to or how to cope with life there.)

They agreed that some youths were involved in criminal activities, such as stealing and using drugs, but said not all the unemployed youths were involved in such activities. They explained that they were hurt and scared by the generalisations like *"wewe ni masikini, huna kazi hivyo wewe ni mwizi"* (you are poor, you are unemployed so you are a thief).

The Mbagala youths said that poverty was the most pressing problem in the community.

Some young members of the community said that they had filled application forms for loans to start small businesses but they had not got the loan as yet. Some said that they were joining youth organisations and organising sports activities to keep themselves busy. The researcher conducted a focused group discussion with youths who were organising themselves for soccer and netball matches.

7.2.5 Solid waste and the dumping site

Solid waste was also identified as an environmental problem by members of Mbagala community. In Mbagala the concern was with the waste from

the market, the stalls and the abattoir. A lot of waste was left around these areas unattended. The community complained of the foul smell caused by the waste. The researcher also witnessed a pile of waste at various levels of decay at the area around Kizuiani stall. The abattoir also emitted foul smell into the air.

The suggestion to create a dumping site in the former sand pit was rejected on the grounds that it would pollute the water source (as discussed earlier) as well as pollute the air. The community also rejected the idea to use the solid waste to cover the gullies as it would decompose and give way to erosion as well as pollute the air of that area.

In general the issue of solid waste disposal was complex in Mbagala because it was posed as a solution as well as an environmental problem. But then, it remained a problem.

The domestic waste was not a problem in Mbagala because there was space between houses and people were burying or throwing their rubbish small rubbish pits and burning them.

7.2 Environmental problems as identified by Members of Vingunguti Community and their involvement in combating them.

The following presentation of the environmental problems identified by members of Vingunguti community. The community's involvement or attempt to combat environmental problems is also discussed.

7.2.1 Solid waste and the dumping site

Problems related to the management of solid waste and the dumping site were identified as one of the major environmental problems by the Vingunguti community.

Members of Vingunguti community explained that they had made an arrangement that obliged each household to contribute towards payment of the garbage collectors. Twice a week the garbage collectors would collect garbage from designated places. With this arrangement the surroundings in Vingunguti were fairly free of rubbish.

However, it was observed that one of the major dumping sites in Dar es salaam city is within the vicinity of Vingunguti community. Members of the community especially those whose homes were near the site complained that the dumping site was causing environmental problems in their community. They explained that soil erosion and the vibrations caused by the big heavy garbage trucks, to and from the dumping site put the houses near the road and their occupants at risk. They complained that trucks also caused dust and noise.

The community's main concern, however, was the foul smell and the fact that some children have turned the dumping site into a playground. Parents feared for their children's health because they were constantly exposed to a dangerous environment. "*Maisha ya watoto wetu yako hatarini. Dampo sasa ndiyo pamekuwa mahali pa kuchezea. Kwenye dampo kuna kila aina ya hatari; machupa, vyuma na kila aina ya uozo*" (Our children's lives are in danger. The dumping site is now their play ground. But in the "dampo" there are all kinds of danger; broken bottles, metals and all kinds of decay.)

One Vingunguti community member explained bitterly during an interview.

Some adults were also scavenging the dumping site for food and items for sale. This was hazardous to their lives too. During the research period, a folk lift ran down one woman and killed her instantly at the dumping site.

Some community members also pointed that things were brought to the dumping site because they were not fit for human consumption but scavengers take them and use them or sell them to the public. This could be hazardous to the people's safety and health.

Another problem with the dumping site, which the members of Vingunguti community pointed out was that some people were taking waste from the site and leaving it in the residential area. Hence the Vingunguti residents had to do extra cleaning work.

The issue of scavenging the dumping site was also complex as it had become a source of income and livelihood to some people. The researcher observed that there was some kind of system where people would, for example, collect paper-boxes and sell them to be recycled.

However, most members of the Vingunguti community suggested erecting a barbed wire fence around the dumping site in order to prevent children from getting in there.

Some Vingunguti community members admitted that when their leaders supported the creation of the dumping site in ward, they did not consider related environmental problems. Others were still of the opinion that the

dumping site could eventually cover the gully and contribute to the solution of the soil erosion problem. However most of the community members felt very strongly that the benefits of covering that gully were outweighed by the *risks* the community was being exposed to.

7.2.2 Poor water drainage and floods.

Another problem that was identified by members of Vingunguti community as one of the major environmental problems their community had to contend with was floods (*mafuriko*). They explained that floods were manifested in various ways including: a) when the drainage system is blocked and surface water mixes with the sewer water, b) when the sewer system is blocked and the waste is out in the open, and c) when water is left standing after heavy rains.

In some parts of Vingunguti, houses were built so closer together that when it rained the storm water was trapped in between the houses. Some members of the community pointed out that the situation was aggravated by the high walls that were built around some industries as well as the erosion caused by animal going to and from the goat market.

Members of the community explained that stagnant water and floods were damaging the feeder roads and creating breeding grounds for vectors such as flies and mosquitoes. They said that some people used to throw rubbish in the poodles but the community discussed the issue and instituted a community regulation that each household should ensure the cleanliness of their surroundings in order to keep these poodles as clean as possible.

Problem of stagnant water was also experienced by some members of the community who had their homes in swampy or water-logged Msimbazi valley. They said that they had to build houses in what used to be rice farms because they could not afford to obtain plots in other parts of the city.

Some residents explained that they were consoled by the fact that for some years the floods had never reached their homes. They were hoping it wouldn't happen soon and they would stay there as long as it seemed safe.

"Nyumba ile ni ya mjomba, ameishi hapa miaka mingi. Nimeshukuru aliponipa hii sehemu nijenge. Ningelipata wapi kiwanja mji huu?"

(That is my uncle's house. He has lived here for many years. I am grateful he has given me this land. Where else would I get a plot in this city?)

However most of the people who lived in the flood-prone swampy areas confessed that they did not know what they would do if there were floods, and said they would have liked to learn more about floods, and flood control.

7.2.3 Poverty

Vingunguti community members identified poverty as one of their most pressing environmental problems. They asserted that poverty in their community was mainly caused by unemployment, lack of capital (*mtaji*) and low wages.

Some members of the community explained that poverty made their life in the city unbearable. They were always worried about what to eat, what to wear and sometimes where to sleep.

"Tunashidwa kumudu maisha hapa mjini kwa sababu ya umasikini. Kila wakati tunahangaika kuhusu tule wapi, tuvae nini na hata mahala pa kulala" one of the youth residents explained.

The issue of poverty was also pointed out by some of the people who lived in risky houses. They said that they could not afford to buy plots or even pay rent in better areas. So they had to stay in those houses although they felt their lives were at risk. It was observed that most of the owners of the houses in the swampy, flood-prone area of Msimbazi valley were old women. They said that they had to build houses in what used to be their rice farms because they could not get plots anywhere else. They said that they could neither afford to buy plots in other parts of the city nor to build new houses. They indicated that they were willing to relocate if they could get new plots and funds to build new homes.

However, some residents said that they were staying in the area because it was near their economic activities; and that they could not afford transport cost if they were to relocate.

Like their counterparts in Mbagala most of the members of the community expressed that the city was the only home they knew. They explained that probably there were a few youths who were involved in stealing, vandalism and using drugs ("*kubwia unga*") but it was not fair to put all the unemployed youth in the same category.

They commended the government's plan to give loans to the youth so that they could invest in some business. Some youths had already sent their loan application forms to appropriate authority, but they hadn't got their loans as yet.

Some community members stated that they were living in Vingunguti simply because it was near the industrial area where they could sometimes secure some temporary casual jobs (*kibarua cha muda*).

This indicates that most of the members of Vinguguti community were ready and willing to work but they were caught in the poverty circle.

7.2.4 Insufficient Public Services

Inadequate public services such as transport, housing and health were also identified as environmental problems by Vingunguti community.

Insufficient transport facilities were pointed out as a major environmental problem facing members of Vinguguti community. They said that access to transport was difficult especially during the rainy season because the roads were bad, full of pot-holes and poodles "*mashimo na madimbwi*". They said that the problem was aggravated by poor drainage and the arrangement of houses which in some parts were too close to each other. Some community members claimed that they had to pay someone to ferry them in rickshaws (*Mikokoteni*) to move from their houses to the main road in the mornings and evenings to go to and from work. Other community members on the other hand, stated that they had to walk long distances because they could not afford paying the bus fare. They explained that transport cost in the city was very high.

However some expressed hopes that this problem would soon be minimised because a constructing firm, "Plan International" had agreed to construct and rehabilitate roads in the area and all the initial arrangements had been finalised.

Insufficient and poor housing was also cited as an environmental problem by members of Vingunguti community. It was pointed out that most of the people living in the crowded houses with poor sanitation and poor drainage system, or living in swampy flood-prone areas, or erosion-prone areas would have relocated if they could find better houses or rooms in other parts of the city.

Inadequate health services ^{unintentional} were also mentioned as environmental issue. Like members of Mbagala community, they explained that the "user pay" system was making it difficult for the poor and the unemployed to get medical attention. It was also pointed out that the cost of medicine had also gone up. "*Siku hizi mtu unafikiri mara mbili tatu kabla ya kupeleka mgonjwa hospitali. Si kumwona dakitari si dawa yote yataka pesa.*" (Nowadays, you have to think twice before going to hospital. You need money to pay for doctor's consultation as well as to buy medicine)

However several members of the community also talked about preventive measures such as cleaning their surroundings and using mosquito nets. Like their counterparts in Mbagala, they seemed to search for cheaper ways to keep healthy.

Unlike the situation in Mbagala community, members of Vingunguti community did not mention any problems relating to their children's schooling.

7.2.4 Inadequate water supply and water pollution

Inadequate water supply and water pollution were identified as central environmental Problems in Vingunguti ward. Most of the women members of the community said that inadequate water supply was the most pressing problem in the community.

It was observed that Vingunguti community did not have supply of piped water in their vicinity. The water pipes in the communities were old and weren't supplying water. Vingunguti residents could get piped water only from Tabata which is about five kilometres away. Consequently they were using water from small shallow wells - "*visima vidogo vya kujitengenezea*" or buying water from vendors at around 200 Tanzania shillings a bucket. This was about 2% of the official minimum wage.

Members of Vingunguti community said that they found water to be a major concern both economically and psychologically. Psychologically because they couldn't be sure of the source of the water they were buying. They contended that "*Maji tunayoyanunua hatuna uhakika nayo. Lakini hatuna njia, tunakunywa tu.*" (Although we are not sure of the sources of the water we are buying, we drink it anyway).

The researchers also had conversation with some water vendors. They intimated that water vending was their source of income and that they set the price according to how far they had to go to get the water. When they had to go for longer distances they made fewer trips hence compensated by raising the price of water. However, they concurred with other members of the community that if water supply was increased they would all benefit.

Some members of Vingunguti community had dug some shallow wells mainly for washing. "*Tunatumia maji ya kisima kuoga, kufua na kuosha vyombo*" (We use the shallow well water for bathing and washing clothes and dishes).

Some of Vingunguti residents were using water from trenches for washing clothes and bathing. Some of the residents said that they thought the trench

water was clean enough to be used for washing while others said that the trench water was contaminated by the chemicals from the industries. None of the residents said that the trench water was good enough for drinking. They all agreed however that if they had another source of clean water they would not use trench water for anything.

While discussing water pollution Vingunguti residents pointed to industrial waste as the main pollutant of the water they were using for washing and watering their gardens in Msimbazi valley. "*Natumaini uchafu wa viwandani unatoka wakati tunaposafisha mboga zetu*" said one of the participants- meaning that she hoped the industrial chemicals could be washed out of the vegetables. Some of the Vingunguti residents also revealed that they believed that some of the waste from the dumping site was contaminating their shallow water wells especially during rainy seasons.

Community leaders explained that negotiations with a donor (Plan International) were under way with the understanding that the donor will build the main water pipe and reservoir, and the community would contribute and build feeder pipes. Each group of five houses would contribute towards the construction of public water taps at a location convenient to all members of the group.

7.2.6 Soil erosion:

Soil erosion was also identified as one of the environmental problems by members of Vingunguti community. In interviews, conversations and group discussions, the participants said that causes of the soil erosion include rain water, big trucks, poor drainage system and animals.

The problem of soil erosion in Vingunguti was intertwined with other problems especially poverty. There were people who had their houses on the slopes of Msimbazi valley that were threatened by erosion. The plots were not legally allocated to them to build houses. Some of them said they were aware of the problem before they built those houses but they could not get plots anywhere else in the city. Those who were just renting rooms in these houses said they were risking staying in erosion-prone areas because the rent was reasonable and there weren't houses to rent in other areas. Citing heavy rains as the main cause of the soil erosion, Vingunguti residents, like counterparts in Mbagala used sand sacks to protect their houses.

The solid waste dumping site was accepted in Vingunguti to cover the gully that was caused by soil erosion. However, those who resided near the road to the dumping site were feared that their houses would be affected by big trucks which carried garbage to the site. This was one of the issues discussed at the neighbourhood meeting held by the people who lived near the dumping site. There is a road which was built specifically for garbage trucks but the trucks were not using that road. The participants said they had reported the issue to the community leaders but nothing had been done as yet. It was resolved at the meeting that a follow up to the issue should be made.

Some members of the community also explained that goats to and from the goat-market were also causing erosion in the ward.

7.3 Community Environmental Education Needs

In this part the environmental education needs which were stated by community members are presented as community environmental education needs. An attempt is made to explain the circumstances under which these needs were stated and how. Each community needs are presented and analysed independently.

7.3.1 Mbagala Community's EE Needs

In Mbagala the felt needs for environmental education were expressed in every aspect of environmental issues which came up in conversations, meetings and discussion.

7.3.1.1 Management of soil erosion

Members of Mbagala community were concerned with soil erosion, especially those who had their houses in the affected areas or areas which were likely to be affected. The community members wanted to know:

- a) about the causes of erosion and how erosion could be prevented in their areas. They pointed out that normally they had heard or read about prevention of soil erosion in rural settings mainly in relation to agriculture and live stock husbandry.
- b) what should be done as a permanent solution to the gullies in their vicinity especially the gully in "Shimo la Mchanga Road".
- c) what could be done to prevent more damage to the partially damaged houses.

- d) what were the legal rights of the people who were allocated plots to build houses in the areas which were affected by soil. Could these people get compensation and how.
- e) about what they could do to prevent soil erosion caused by the animals.
- f) how to keep themselves and their families healthy.

In general members of Mbagala community expressed the need for an environmental education programme on soil erosion management. It is worth noting however that the young members of the community did not think that this programme should be accorded the highest priority as they were more concern with issues of employment and poverty alleviation.

7.3.1.2 Quantity and quality of water supply

As far as the quantity and quality of water supply was concerned, members of Mbagala community expressed the need to know more about:

- a) how they could get an adequate supply of clean water. They said that the taps in the vicinity were always dry and when water came it leaked through the pipes;
- b) their rights and obligations regarding water supply;
- c) water quality - the difference between clean and safe water;
- d) how to protect their sources of water; and
- e) how to manage storm water which causes problems of soil erosion and sometimes floods.

7.3.1.3 Eradication of poverty

Eradication of poverty was one of the EE needs which was expressed by the members of Mbagala community. Members of Mbagala community especially the youth voiced the need to learn various ways of dealing with poverty at the time when unemployment was rampant. They wanted to get

skills which would help them explore their potential and available opportunities for self employment.

7.3.1.4 Legal Rights and Obligations:

Members of Mbagala community expressed a need to have more knowledge of their rights and obligations in dealing with various environmental issues. For example they wanted to know the rights and obligations of the people who were allocated plots in erosion prone areas.

7.3.1.5 Health Education

Members of Mbagala community wanted to learn more about preventive measures and cheaper ways to maintain their health.

7.3. 2 Vingunguti community's EE Needs

The environmental education needs which were identified by the Vingunguti Community include: dumping site management, floods and water drainage management, poverty eradication, water quality and legal right and obligations.

7.3.2.1 The management of dumping site:

The members of Vingunguti community expressed the desire to learn about dumping site management in order to know the to know the long term hazards of living near the dumping site as well as the rights of the people living near that site.

7.3.2.2 Management of floods and water drainage

Vingunguti community members also expressed the need to learn more about the causes, prevention and management of floods. They said that the drainage system in the area was blocked and the residents' efforts didn't seem to be helping much especially during the rain seasons, so they expressed the desire to learn more about water drainage.

7.3.2.3 Eradication of poverty

The members of Vingunguti community also felt a need for an environmental education programme on eradication of poverty

They stated that poverty was hindering their progress. They wanted to learn new skills which would help them earn more income and improve their living standards.

7.3.2.4 Quality of water supply

Confident that they would soon have adequate water supply, members of Vingunguti expressed the need to learn more about water quality than water supply.

7.3.2.5 Legal rights and obligations

Another EE need that was expressed by members of Vingunguti community was a desire to know more about their legal rights and obligations in dealing with all aspects of environmental issues.

7.3.2.6 Soil erosion management

Vinguguti community members indicated a need for the community to have more knowledge about soil erosion management and the legal rights and obligations of those who are directly affected by soil erosion.

7.4 Priorities for Environmental Education Programmes

Members of the community were asked in groups and individually to set priorities for environmental education programmes in their respective communities. This was done during group discussions, conversations, neighbourhood meetings and visits. The following is the presentation of priorities of environmental education programmes as envisaged by each community.

7.4.1 Environmental Education Programmes for Mbagala Community

The priority list for environmental education programmes for Mbagala community was in the following order :

- a) Soil erosion management
- b) Eradication of poverty
- c) The quantity and quality of water supply
- d) Legal rights and obligations and
- e) Solid waste disposal
- f) health education

7.4.2 EE Programmes for Vinguguti Community

The participants from Vinguguti expressed their environmental education programme needs for their community in the following order of priority:

- a) management of floods and stagnant water;

- b) management of the dumping site;
- c) urban poverty eradication;
- d) legal rights and obligations in dealing with environmental issues;
- e) the quality of water supply.

8.0 Summary of Findings

This section presents the summary of findings and indicates the environmental education needs identified by the participants in Mbagala and Vingunguti communities. The findings for each community are presented separately for easy reference.

8.1 Mbagala Community:

8.1.1 Environmental problems identified by the members of Mbagala community included:

- 1) soil erosion
- 2) inadequate water supply
- 3) solid waste disposal
- 4) Inadequate social services
- 5) poverty expressed in terms of lack of economic and social security

8.1.2 Members of Mbagala community were actively involved in combating environmental problems as a community, as a group and individually. These included:

- 1) holding meetings to discuss pressing environmental problems and explore viable solutions.

- 2) making shallow water wells to increase their water supply;
- 3) using sand sacks to protect their houses from effects of soil erosion;
- 4) boiling their drinking water to make their water clean and safe;
- 5) taking initiatives to protect water sources;
- 6) making small pits to bury and burning rubbish from household use
- 7) setting community regulation as a temporary solution for example setting standard one enrolment criteria.
- 8) participating in self help projects, such as constructing a community secondary school through self-help efforts; and
- 9) asking community leaders to present community's environmental problems to higher authorities and soliciting government assistance.

8.1.3 Members of Mbagala community identified their environmental education needs and set priorities for environmental education programmes suitable for their community. Their order of priority for environmental education programmes was as follows:

- 1) Soil erosion management programme.
- 2) Environmental education programme on eradication of poverty.
- 3) Improvement of quality and quantity of water supply
- 4) legal rights and obligations
- 5) solid waste disposal.

8.2 Vingunguti community

8.2.1 Environmental problems identified by the members of Vingunguti community included:

- 1) solid waste disposal and the dumping site

- 2) floods and water drainage
- 3) poverty
- 4) inadequate water supply
- 5) inadequate social services
- 6) soil erosion

8.2.2 The Vingunguti community was also actively involved in combating environmental problems in their community.. Their involvement include:

- 1) holding meetings to discuss environment problems in their community and how to combat them;
- 2) setting community regulations and by laws, such as obliging each household to contribute towards payment for garbage collection.
- 3) negotiating with donors and government for community projects (for example the water supply and road projects).
- 4) cleaning their surroundings.

8.2.3 The Vingunguti community identified six environmental education needs which included: Soil erosion management, quality of water supply, management of the dumping site, legal right and obligations in dealing with environmental issues, eradication of urban poverty and management of floods and stagnant water. However, soil erosion management was not included in their priorities for environmental education programmes.

The following are the EE programmes identified by members of Vingunguti community arranged in their order of priority. They include:

- 1) management of floods and stagnant water
- 2) management of the dumping site
- 3) eradication of urban poverty

- 4) management of the quality and quantity of water supply
- 5) legal rights and obligations in dealing with environmental issues.

9.0 Summary and Conclusion

This study aimed at assessing environmental education needs for Mbagala and Vingunguti communities as a step for towards developing EE programmes appropriate and suitable for these communities. The basic assumption in this study was that members of the communities have some knowledge about local environmental issues and are interested in learning more about their environment to have more permanent solutions to their problems.

Thus the study employed the community-based approach to provide opportunity to Mbagala and Vingunguti residents to assess their environmental education needs and state their priorities for environmental education programmes. The researcher's role was to register people's concerns and facilitate their assessment rather than to direct it.

The environmental problems which were identified by the communities under this study include: soil erosion, solid waste disposal, water supply, drainage and floods. Other issues were poverty; lack of social security as well as inadequate social services such as housing, education, health services and transport.

Through the process of assessing their EE needs the members of the community were able to explore the causes of their environmental problems and provide suggestions on how to solve them thereby identifying and spelling out their priorities for EE programme. The findings of this

study indicate that these communities would preferred EE programmes that related to the environmental problems facing them in their day to day life.

It was found that environmental education programme priorities set by members of Mbagala community differed from those indicated by the Vingunguti community members. This led us to concluded that not only does the process of community-based needs assessment enable communities to draw out environmental education programmes suitable for their communities, but also that the immediate environment determines the order of priority for EE programmes for each community.

The research findings also indicate that environmental issues are inter-related and sometimes complex. At times a solution to one problem might create other problems. Blocking the Shimo la Mchanga road in Mbagala for example, would cause transport problems to some of the members of the community because it was their only outlet to the main road; removing the abattoir would mean removing a source of employment to some members of the community thus adding to the unemployment problem; and using solid waste to cover the gullies could cause other environmental problems such as water and air pollution. Thus the assessment of the EE needs of the community must be done in an integrated manner rather than taking one environmental issue and dealing with it in isolation.

Further, the findings also show that communities were actively involved in environmental issues by taking various steps to address environmental problems facing them. In both communities under the study, meetings were held to discuss environmental problems including soil erosion, poverty, social security, education and health, solid waste management and disposal, water supply, water drainage and floods. Members of the community also

took individual action, for example people who lived near the gullies, were putting sand-bags around their houses to protect them from erosion.

The findings also indicate that the emphasis and nature of involvement varied according to age group, proximity to the problem and the community they belonged to. For example the youth emphasised poverty related issues, the Mbagala community stressed soil erosion and Vingunguti's major concerns were floods and dumping site management.

From the observation above, we note that urban communities are heterogeneous and their needs differ from one to another. Sometimes conflicting needs and differing ways of dealing with an environmental issue may be voiced. Thus we can conclude that consideration of community dynamics, patience and continuous assessment is important.

From the findings we can also conclude that environmental education programmes cover a wide range of disciplines calling for an integrated approach where people with knowledge and expertise in different fields can, together with the community, seek to understand environmental issues for the benefit of all.

The findings in this study give support to the basic assumption underlying community based approach to the assessment of communities EE needs:- that communities are neither uninterested nor ignorant of their local environment. They know some things; they are interested and they are eager to learn more about their environment in order to make their communities better places in which to live. Thus it is imperative for the environmental educator to work with the community to achieve their

environmental educational goals through sustainable EE programmes identified by the community.

10.0 Recommendations

10.1 Based on the findings and conclusions arrived at in this study, we recommend that the above findings should form the basis for the development of community based environmental education programmes in Mbagala and Vingunguti wards in Dar es Salaam.

10.2 We also recommend that similar studies be carried out in other parts of Dar es Salaam and other cities and towns of Tanzania for the purpose of establishing suitable community based environmental education programmes for all urban areas.

10.3 We recommend closer co-ordination between the Ministry of Education (MoE) and the National Environment Management Council (NEMC) of Tanzania to ensure that educators at all levels and experts in various environment issues work together with the communities for improvement and protection of the environment.

10.4 The Ministry of Education should provide training programmes on community-based approach to environmental education.

10.5 Environmental education should be an integrated process and, while communities should be given priority to identify and direct this process, government officials and experts should respond to the communities efforts and needs.

Bibliography

Bakobi, B.L.M., "Overview of Environmental Education Research in Tanzania: Issues Requiring Immediate Action" Paper presented at a workshop to Share Research experiences on EE Research in Tanzania, UDSM, Dar es Salaam, 15-16th, December, 1992.

Bakobi, B.L.M., Meena, S., Mushi, V.J., Rajabu, A.R.M.S., and Shuma, M., "Tanzania in Perspective, Environmental Education and Public Awareness". Tanzania country Paper Presented at the workshop on Environmental Education held in Nyeri, Kenya, 5 - 10th October, 1992.

Chonjo, P.N., Summary of the Main Findings of a Study Conducted to Gauge the Perceptions of Afforestation by Primary School Pupils and Teachers and How the School Can Be Used to Protect the Environment. Paper presented at a Workshop to Share Research Experiences in EE in Tanzania, UDSM, December 15th - 16th 1992.

Kater, A.; Kadege, N.P., Karegero, M., Mlekwa, V., Mushi P.A., "Peasant and Educators: A Study on the Literacy Environment in Rural Tanzania". Report to the Ministry of Education and Culture, Dare es Salaam and SIDA, Stockholm, 1992.

Kweka, A. N.. "Community Based Education for Democracy and Development", Paper Presented at the 3rd Convocation Seminar held at Nassaco Functional Hall, Dar es Salaam, 24 - 25th March, 1994.

Lema, A: "An Overview of Environmental Education With Some Reference to Tanzania" Paper Presented at a National Seminar on EE for College Tutors, held at Marangu T.T.C;11 - 16th March, 1991.

Lucas, A.M; "Studies in Science Education" **Journal of EE** 12: 2

Mathryn,V.J; "Community Education for Self-Reliance Development" .University Microfilm International, 1979.

Mbilinyi, M., Mbughuni, P., Meena, R., Olekambaine, P., "Education in Tanzania with a Gender Perspective" , **Report for SIDA Education Document**, No. 53,1991.

Mbilinyi, M; "Gender and Structural Adjustment" A Background Paper for Symposium on Gender and Structural Adjustment : Empowerment and Disempowerment" Presented at the SID conference, Feb, 1994.

National Environment Management Council (NEMC)
"Recommendations for Incorporating Environmental Education in
School Programmes", Dar es Salaam, DUP, 1992.

Nyerere, J.K.; **Freedom and Socialism**, Dar es Salaam, DUP, 1967.

Osaki, K.M; **Environmental Problems in Tanzania: Un-imparted
Wisdom or an Underdeveloped Science Teaching?** Unpublished M.A
Dissertation. University of London, 1983 .

Osaki, K.M; "Perspectives on Environmental Education and Research:
A Review of Literature". Paper presented at a Workshop to share
Research Experiences in EE in Tanzania, UDSM, December 15-16th
1992.

South Commission (SC) **The Challenge to the South**, Oxford , UK,
Oxford University Press, 1989.

Tunsiri, V; "Non-formal Education in Thailand: Philosophy, Concept
and Practice" in **Adult Education and Development**, No, 33,
September, 1989.

United Nations ; "UN Conference on Human and Environment",
Stockholm, Sweden. **Final Report, 1972.**

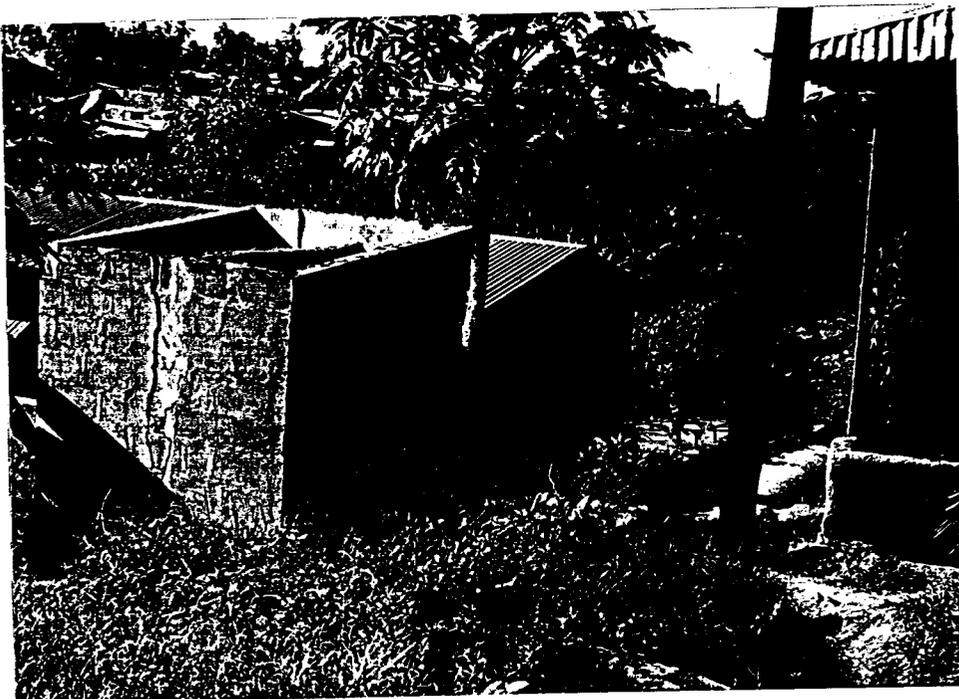
United Republic of Tanzania (URT), **Tanzania Integrated Education and
Training Policy. First Draft**, Dar es Salaam, 10th August, 1993.

United Republic of Tanzania (URT), **Tanzania Education system in the
21st Century**, Dar es Salaam, Ministry of Education, 1993

APPENDIX A



The gully on Shimmo la Mchanga road in Mbagala ward



Some of the houses already had cracks due to soil erosion

Figure 1: Examples of the Effects of Soil Erosion

APPENDIX B



Protecting houses with sand sacks(*magunia ya mchanga*) had very limited success



Planting grass and trees to protect the soil

Figure 2: People's efforts to protect their dwellings.

APPENDIX C

USAILI WA WAKAZI WA KATA ZA VINGUNGUTI NA LBAGALA

Huu ni mwongozo wa usaili utakao fanyika. Mwongozo huu utategemea sana hali halisi ya mazingira ya jamii na majibu ya wasajiliwa. Ni muhimu kukariri (to note) matukio na majibu yote ya msaili wa

1.0 Utangulizi:

1.1 Maamkizi (salamu) kufuatana na desturi za waswahili ie shikamo! au Hujambo.

1.2 Mimi ni ninaishi katika jiji hili la Dar es Salaam na nina pendelea sana kujikusisha na maswala ya Elimu ya Mazingira. Nipeomba muda wako kidogo tuzungumzie maswala mbalimbali yanayohusu mazingira?

(Kama hawezi kuzungumza kwa wakati huo mwombe akupangie muda (appointment))

2.0 Mahali

Wilaya ya

Kata

Mtaa

2.1 Jinsia

2.3 Umri

- Chini ya Miaka 18
- Kati ya miaka 18 - 35
- Zaidi ya miaka 35

2.4 Elimu

- Madrasa
- Kisomo - Elimu ya Watu Tazama
- Elimu ya Msingi
- Elimu ya Sekondari na zaidi
- Hengineyo.

2.5 Kazi

Je unafanya kazi gani?

- Nimeajiriwa (
- Nimejiajiri mwenyewe
- Mama wa nyumbani (nimeolewa)
- Sina kazi
- Mwanafunzi

3.0 Maswala ya Mazingira

1. Je umeishi hapa kwa muda gani?
2. Unapenda kuishi hapa au ungependa kuishi sehemu nyingine?
Kwa nini?
3. Je mazingira ni nini?
- 4 4. Nini matatizo ya mazingira unayokabiliwa nayo katika kata hii.
5. Je unafikiri ni nini chanzo cha matatizo hayo.
6. Je unafikiri ni nini kinaweza kufanyika ili kuyaondoa matatizo hayo
7. Ungependa kuelewa zaidi kuhusu matatizo hayo.
8. Je unafikiri jireni zako wangelipenda kujifunza zaidi kuhusu mazingira? Kwa nini?
9. Unafikiri ni njia gani bora inaweza kutunika katika kujifunza zaidi kuhusu mazingira.

3.1 Zungumzia maswala mbalimbali ya mazingira ukianzia na yale ambayo msailiwa aneyataja mwanzo.

Maswala ya mazingira ni kama yafuatayo:

1. Utupaji takataka
2. Mifefreji na maji machafu.
3. Nishati.
4. Afya.
5. Mmomoonyoko wa Udogo.
6. Wanyama pori.
7. Mengineyo.

3.2 Utupaji takataka.

1. Ni aina gani za takataka unazokuwa nazo?
2. Je takataka sako unasitupa wapi na kwa nini?
3. Je kuna 'dampo' hapa karibu?
4. Je wewe unapendelea dampo kuwa karibu na nyumbani kwako?
Kwa nini?
5. Je ulishiriki katika kuanzisha dampo katika sehemu hii? Kwa nini?
na kwa vipi?
- (b) Je ulishiriki katika kusua dampo lisianzishwe katika sehemu hii?
6. Je unafikiri Dampo ni mahali pazuri pa watu (watoto) watu wazima/
kutenbelea au kuzurura? kwa nini.
7. Je unafikiri majireni zako watu wengine katika kata hii wangependa kuishi karibu na dampo? kwa nini?
8. Je ungependa kujifunza au kujua zaidi kuhusu faida na hasara za dampo?

3.6 Mifereji na maji machafu:

- Je hali ya miferejikatika kata hii inaridhisha?
- Je kuna wakati mnakuwa na rafuriki?
- Unafikiri ni nini kinasababisha mafuriko?
- Je kunapotokea mafuriko unafanya nini?
- Je kunawakati kuna maji yanayosimama ovyo? Kwa nini yanakuwepo.

Je wewe binafsi na majirani zako unafanya nini kunapotokea hali kama hii?

- Je unajua ni nini la kufanya unapotaka kujenga mifereji inara?
- Je unayo choo? Ni aina gani ya vyoo unayotumia?
- Je choo chako kina toa harufu chafu? Unafanya nini ikiwa choo chako kina toa harufu chafu? Kwa nini?
- Je majirani zako vyoo vyao vitoa harufu? Unafanya nini iwapo choo cha jirani yako kina toa harufu?
- Je ungependa kujua zaidi kuhusu mifereji na maji machafu na adhari zake kwa mazingira yako?

3.7 Afya

1. Ni magonjwa gani yanayowasumbua watu wa kata hii mara kwa mara?
2. Unafikiri ni nini chanzo cha magonjwa haya?
3. Je wewe pamoja na majirani zako unafanya nini kuthibiti magonjwa hayo.
4. Je ungependa kujifunza zaidi kuhusu chanzo na mamua ya kuzuia magonjwa haya.

3.8 Nishati

1. Unatumia nishati gani kwa kupikia chakula? - kuni, mkaa mafuta ya toa, gasi, mkaa wa mawe.
2. Unaonaje ufanisi wa nishati hii? Je unajua kwa njia hii unachagua katika kuchafua mazingira?
3. Unafikiri labda unachagua katika kupungua misitu ndini? Kwa nini?
4. Je unaelewa umuhimu wa misitu kwa mwanadamu?
5. Je ungependa kujifunza zaidi kuhusu nishati na mazingira?

3.8 Pollution (uchafuzi wa mazingira)

- Je unaelewa nini kuhusu uchafuzi wa mazingira, hasa hewa?
- Ni shughuli gani (Matendo gani) yanachangia katika kuchafua hali ya hewa katika sehemu hii
- Je ni nini kinaweza kufanyika kupunguza uchafuzi wa hewa
- Je unaelewa athari za uchafuzi wa hewa
- Je ungependa kujifunza zaidi kuhusu uchafuzi wa hewa na athari zake?

MMOMONYOKO WA UDONGO:

- Je kuna hali ya umomonyoko wa Udongo katika kata hii?
- Je una fahamu ni mabo gani yanachangia katika kuleta mmomonyoko wa Udongo.
- Je ungependa kujifunza zaidi kuhusu mmomonyoko wa Udongo na athari zake na namna ya kuzuia?

ENVIRONMENTAL EDUCATION.

- Je unaelewa nini kuhusu Elimu ya mazingira?
- Je huwa unasoma kuhusu mazingira (kwa nini)
- Je ni kwa jinzi gani unapata taarifa kuhusu mazingira?
- Unafikiri unapata taarifa za kutosha kuhusu maswala mbali mbali ya mazingira?

Programu za Elimu ya mazingira.

- Je ungependa kushiriki katika mafunzo mbali mbali kuhusu mazingira?
- Je ni maswala gani ungependa yakufundishe/ ya zungunziwe katika Elimu ya mazingira? Kwa nini?
- Ni jambo gani muhimu sana ungependa lipewe kipaumbele katika Elimu ya mazingira?
- Je ungependa kushiriki katika kuandaa elimu ya mazingira katika kata hii? Kwa vipi?
- Nani wengine wangependa washiriki katika kuandaa elimu ya mazingira kwa kata hii.

APPENDIX D

UNITED REPUBLIC OF TANZANIA

Cables: BLIMU, DAR ES SALAAM
Telephone 27903 & 27211
In reply please quote:

Ref. No. ED/A3/10/RP/III/55



MINISTRY OF EDUCATION
P. O. BOX 9121
DAR ES SALAAM

Date 19/1/94

TO WHOM IT MAY CONCERN

RE: RESEARCH CLEARANCE FOR MRS. C. MUGANDA.

The Ministry of Education and Culture has granted permission to Mrs. Muganda, who has won a Kenya, Uganda, Tanzania Educational Research Award, to conduct research on the Assessment of Environmental Education Needs of the Urban Communities in Tanzania Using Community Based Approach: the Case of Vingunguti and Mbagala.

You are requested to kindly help her collect the needed data from your institutions and facilitate the successful completion of her field research.

Yours Sincerely,

Dr. Frederick E. Mbeo
for: PRINCIPAL SECRETARY

NB:

M/kiti wa mtaa: - Mpokee ndugu, Muganda (Mrs)

- Maluka
- Mbagala Kuu
- Mangaya
- Mbagala

→ Tafadhali upokeeni huyu mtaalam toka wizara ya elimu na utamaduni kwa ajili ya utafiti wa jamii

[Signature]
AFISA MTENDAJI WA KATA

APPENDIX E

KIBENYE VITI KIA MITAA

- MTAKUJA
- MIEMBEHI
- KOMBO

Mpokeleeni huyo mama
Muganda (Mrs)
ni mtaalamu kutoka
kizara ya Elinu na
Utamaduni - kuja
kufanya utafiti wa
Mazingira^{ya} anii
kako

Dr D
AFISA MIBINA
KATA YA VINDOVI