ASSESSING IMPLEMENTATION OF ZANZIBAR FOREST POLICY (1999) ON MAJOR REFORESTATION CHALLENGES IN NORTH 'A' DISTRICT:
A CASE OF JONGOWE AND MKOKOTONI SHEHIAS

ASSESSING IMPLEMENTATION OF ZANZIBAR FOREST POLICY (1999) ON MAJOR REFORESTATION CHALLENGES IN NORTH 'A' DISTRICT: A CASE OF JONGOWE AND MKOKOTONI SHEHIAS

By

Mwadini M. Haji

A Dissertation Submitted in Partial Fulfillment of the Requirements for Award of Degree of Master of Science in Development Policy of Mzumbe University

2015

CERTIFICATION

We, the undersigned, certify that we have read and hereby recommend for acceptance by the Mzumbe University, a dissertation entitled **Assessing Implementation of Zanzibar Forest Policy (1999) On Major Reforestation Challenges in North 'A' District: The Case of Jongowe and Mkokotoni Shehias**, in partial/ fulfilment of the requirements for award of the degree of Master of Science in Development Policy of Mzumbe University.

_____

Major Supervisor

_____

Internal Examiner

Accepted for the Board of

……

_____

DIRECTOR, INSTITUTE OF DEVELOPMENT STUDIES

DECLARATION AND COPYRIGHT

I, Mwadini Makame Haji, declare that this thesis is my own original work and that it has not been presented and will not be presented to any other university for a similar or another degree award.

Signature…….

Date ……

ACKNOWLEDGEMENT

This report is an outcome of the efforts of many people whom are highly indebted. I wish to thank all who in one way or another helped me to accomplish this study. First of all, I would like to thank Almighty Allah (S.W) for giving me the spirit, guidance, empowerment and good health up to this juncture. I would like to extend my sincere thanks to the Ministry of State, President's Office and Chairman of the Revolutionary Council for giving me a chance and financial support that make me comfortable during my studyies. I sincerely wish to thank very much my supervisor Dr. M. Rumulika of the Institute of Development studies (IDS), Mzumbe University for his competent guidance and generous efforts toward good achievement of this study. I would like also to express my sincere thanks to course lecturers and to IDS staff members.

I am greatly grateful to the Department of Commercial Crops and Non Renewable Resources for their cooperation, support and fruitful directives in the whole period of my study. I also express sincere thanks for Shehia leaders and other respondents who took part in the community questionnaire interviews in this project.

Thanks are also due to my loving wife, Mrs. Ummi Moh'd Juma for her personal encouragement and endurance of many problems during the whole study period; my Mother; my children Asya, Idrissa and Ibrahim for their tolerance during the whole study period. Also I express my special thanks to my brothers for their encouragement and moral support during my studies.

Likewise, I wish to convey my appreciation to a number of individuals who provided help and advice from data collection to presentation of final document. They include Mrs. Amina Msaraka Pinja, Mrs. Nafisa I. Omar, Mr. Hamza Mkuwi Hamza and Mr Makame O. Chum. Their support in terms of time, knowledge and moral support in the interviewing, typing and data analysis is well appreciated.

DEDICATION

I would like to dedicate this work to my lovely parent my mother, Tatu Maosud Fumu; my late father Makame Haji Mshenga; who laid down the foundation of my education and for their tender love and care thus far. Also my wife, Ummi Moh'd Juma, my children Asya, Idrissa and Ibrahim and my brothers for their encouragement, support and tolerance during my studies.

LIST OF ABBREVIATION/ACRONYMS

DCCFF	Department of Commercial Crops Fruits and Forestry
DFMR	Department of Forestry and Non-Renewable Natural Resources
DOE	Department of Environment
FAO	Food and Agricultural Organization
FINNIDA	The Finnish International Development Agency
IDS	Institute of Development Studies
MAC	Ministry of Agriculture and Corporation
MKUZA	Mkakati wa Kukuza Uchumi na Kupunguza Umasikini Zanzibar
NGO	Non Government Organization
PRA	Participatory Rural Appraisal
RGoZ	Revolutionary Government of Zanzibar
SOFO	State of the World's Forest
SPSS	Statistical Package for Social Science
UN	United Nations
UNCED	United Nations Conference on Environment and Development
UNFCCC	United Nations Framework for Convention on Climate Change
URT	United Republic of Tanzania
ZFDP	Zanzibar Forest Development Project

ABSTRACT

The study designed to assess the implementation of the National Forest Policy for Zanzibar (1999). The focus was to assess major reforestation challenges in North "A" district – Zanzibar including the community's support of tree planting, other socio-economic effects on the program, the availability of seedlings, and perception about the program. Data were collected from a sample of 90 community members and 1 Forest District Officer, 1 Assistant Planning Officer and 2 Shehas from the selected village in the district. Descriptive statistics such as frequencies, percentages, charts and tables were used.

The key finding of the study shows that the community was supported in some areas on tree planting but that this was not enough. Also people have positive perception on tree planting but there was poor community participation in tree planting meetings and programmes, shortage of land for planting trees, difficulty in obtaining tree seedlings and shortage of extension services.

The study concluded that the tree planting campaigns will not be successful to the extent that people may not participate in those campaigns; more support is needed to enable the community to plant more trees; the efforts made to promote sustainable forest-related community activities were not effectively implemented; the size of land owned by the community in the study area was small; and it was difficult to obtain tree seedlings for the community.

Policy implications are that there is the need, first, to have policy interventions to enable community to access enough land for tree planting; second, to provide adequate support to the community; third, to obtain relevant information concerning tree planting; and, fourth, to have laws and regulations that enable community to access land for forestation and to have knowledge and skills on production of tree seedlings and of forest in general.

TABLE OF CONTENTS

Page

LIST OF TABLES

LIST OF FIGURES

CHAPTER ONE

INTRODUCTION

1.0 Introduction

This chapter presents the background information regarding the concept of citizen participation. It also entails statement of the problem which the study intends to work on, objective of the study, delimitation and the hypotheses.

1.1 Background

Forests have played a vital role in human life. For many years human beings use forests to fulfil their daily needs worldwide. The world witnessed periodic deforestation accompanied with population growth and development for thousands of years. Climate, culture, technology and trade have had an important influence on speeding up or slowing down in some cases even reversing the pace of deforestation. Over time, the interaction between humans and forests has changed in response to social and economic changes. History shows that there are strong links between forest use and economic and social development and from that link deforestation takes place (FAO, 2012).

There is evidence that deforestation rate has increased throughout the year. State of the World's Forests (SOFO) 1997 reports an estimated deforestation rate of 13.7 million hectares per annum between 1990 and 1995 in natural forests in developing countries. The net global deforestation rate, taking into account increases as well as decreases in forest area, was estimated at 11.3 million hectares per annum (FAO, 2012).

In Africa, forests currently cover about 23 percent of the land; African countries reported that 75 million hectares of forest land (10 percent of the total forest area) was converted to other uses between 1990 and 2010. As in Latin America, deforestation in Africa is driven by the demand for land for growing a variety of

crops and for grazing. An added pressure on forest resources in Africa is that wood is the main source of fuel; about 80 percent of all wood used in the region is for fuel. An acute fuel wood shortage affects large areas of eastern Africa (FAO, 2012).

Zanzibar where the research was undertaken in many records is referred to as the green islands. It was, indeed in the past, very rich in terrestrial and marine natural resources. It had a good balance between supply and demand of these resources. There was enough forest cover to ensure the productive capacity of the soil. However, like many other poor countries, Zanzibar people could not escape being heavily dependent on natural resources. So, the resources, especially forests, have diminished mostly due to human interference. Population growth has led to demand for settlements. Agriculture and other infrastructure development have impacted on the resource base and threatened the productive and protective capacity of the resources (Care, 2003).

The total land under agriculture and forestry is about 99%. Forestry woodlands cover about 16.2% of the total land, while grazing land and cultivated land cover 40.9% and 41.6%, respectively. According to the Review Mission (1991), Zanzibar realized deforestation in 1830s when clove-planting Programme began. Currently, the deforestation rate in Zanzibar is similar to whole of Africa Island states with an estimated annual rate of about 400,000 hectares (Persson, 1994). Main reasons for deforestation being traditional shifting cultivation, overgrazing, settlement and extraction of wood fuel for commercial and domestic uses (Kosonen, 1991).

A country's demand for forest is closely linked to its socio-economic and geographic factors, such as the size of its population, its degree of urbanization, level of technology, dietary patterns, and its climatic conditions. Economic conditions influence the supplies and accessibility of different sources of energy, and therefore dictate the effective demand by different countries and by different income groups. There has been a gap between supply and demand of fuel wood in Zanzibar (ZFDP, 1993).

Many farmers in the coral rag areas tend to clear the natural forest on the pretext of farming it, but their real intention is to cut fuel wood to sell. Due to low levels of technology and uncertainties of rainfall, the limited rural employment sectors, namely agriculture and fishing, are unreliable sources of income. Cutting of trees for Charcoal making and fuel wood for sale, in contrast, provides quick cash returns (Jaakko, 1987). Given the economic hardships of the country, rapid urbanization, and high population growth, the demand of forest for different purposes increased enormously. The high demand of forest will not only raise the forest product prices in Zanzibar but also lead to exert pressure on the remnant natural forest (Masoud R.S, 1990).

The statistics indicate there is high demand of forests for several purposes. It shows that an annual household charcoal consumption of 416,974m3. Of these 53% is consumed in Pemba. Rural Pemba also appears to be the main consumer of charcoal (29%) while the rural areas of Unguja consume about 20% of overall charcoal consumption in Zanzibar. While Pemba has adequate supply of wood fuel, there is shortage of wood fuel supply in Unguja Island. An additional resource (6,960m of charcoal and 4731m of fire wood) is imported from mainland Tanzania. Institutions are the second largest consumer of wood fuels in Zanzibar next to household. The consumption rate in different Zanzibar institutions reflect variation in resource, socio-economic characteristics of specific localities and cannot be separated from other aspects of resource management and people's lives (Masoud R. S, 1990).

To overcome the problem of deforestation, there are many initiatives done globally and within the country. Agenda 21 addresses the pressing problems of today and also aims at preparing the world for the challenges of the next century. It reflects a global consensus and political commitment at the highest level on development and environment cooperation. Its successful implementation is first and foremost the responsibility of Governments. National strategies, plans, policies and processes are crucial in achieving this. International cooperation should support and supplement such national efforts. In this context, the United Nations system has a key role to

play. Other international, regional and sub-regional organizations are also called upon to contribute to this effort. The broadest public participation and the active involvement of the non-governmental organizations and other groups should also be encouraged (UN, 1992).

In Tanzania, forest has been taken into consideration since colonial era. There was the National Forest Policy enunciated in 1953 and reviewed in 1963 to detail the manner in which the forest and tree resources would be managed sustainably to meet the needs and desires of the society and the nation. Over the past three decades the perspectives on the role of the forest for the society have changed and broadened considerably as a consequence of social, economic, environmental, cultural and political changes. On the other hand, there have been relentless pressures on the forest resources arising from the ever increasing demand for fuel-wood, fodder, timber and demand of land for other uses (URT, 1998).

The challenge to manage Tanzania's forest resources as a national heritage on an integrated and sustainable basis to optimise their environment, economic, social and cultural values remains as pressing as ever. In addition, as a result of the International forest-related discussion initiated by the 1992 UNCED conference in Rio and continued by the Intergovernmental Panels (IPF), the contribution of the forest to the international conservation functions has become an important part of the national discussions (URT, 1998).

At the same time the Revolutionary Government of Zanzibar made several efforts as the measure to protect forest as the implementation of global efforts concerning environment conservation. In the year 1999 the National Forestry Policy for Zanzibar was developed and was the first formal forest policy declaration in Zanzibar. The general goal of the Zanzibar's Forest Policy, is derived from the principles of sustainability and welfare of the people. It intends to protect, conserve and develops forest resources for social, economic and environmental benefit of the present and future generations of the people of Zanzibar (RGoZ, 1999).

Specifically the policy intends to achieve three goals which are: (i) Social goal: Strengthen the role of forestry in alleviating poverty and increasing equity in resource management and utilization; (ii) Economic goal: Strengthen the role of forest resources in promoting economic development, in meeting demand for forest product, in creating income and increasing national revenues and efficiency; and (iii) Environmental goal: Protect and conserve forest resources including wildlife and flora, and enhance the role of forest resources in maintaining soil and water conservation and other environmental benefits.

1.2 Statement of the problem

According to Masoud R.S (1990) forestry development initiatives in Zanzibar have shown good progress in some areas. The Forest Department, in collaboration with the Forestry Development Project staff, has been successful in encouraging villagers, women's and men's groups, football teams, schools and some institutions to plant trees in addition to government plantations. Political and institutional supports were also important in this success. The Finnish government, through the Finnish International Development Agency (FINNIDA), has provided technical advice and funding.

Nevertheless, deforestation seems to proceed in different areas in Zanzibar whereby in some areas there are large effects observed. When high forests are logged they are often also burned for cultivation (Muyuni), intensive wood fuel collection and shifting cultivation steadily turns closed scrublands to partly barren (Matemwe) or lands previously used for slash-and-burn cultivation are taken to more permanent rotation farming as population grows (Paje and Jambiani). However the current changes in Unguja rarely follow fully the stepwise path suggested by Lambin E. (1997) as the larger individual trees are already logged and soils rarely allow permanent cultivation (Kukkonen M, 2013).

Forested landscapes of Unguja have been extremely dynamic spatially and quantitatively between 1996 and 2009.

About half of the forests stayed unchanged, one-third changed spatial location and one-tenth disappeared completely. The annual forest cover change rates of Unguja (-1,18% – -0,82%) are quite close to the earlier estimations done by DFNR (-1,2%) and the change measured from Matemwe between 1978 and 2004 (-1,14). The calculated rates are also similar to the rates of entire Tanzania (-1,16%), but clearly higher than in other African nations at the same latitude, in the other East African island nations or in the Caribbean and Oceania islands, except for Uganda and Comoros (FAO 2010).

Although the implementation of Forest Policy for Zanzibar has been taken place since 1999 the deforestation situation is extremely severe in Unguja. Due to this, this study was conducted to assess the implementation of Zanzibar Forest Policy on major reforestation challenges in North 'A' district. The focus was to study the implementation of the policy strategy stated that "encourage and support rural people, both men and women, to grow appropriate multi-purpose trees, in community woodlots, in agro-forestry configurations or in other arrangements that are suitable to their specific needs, capacities and customs".

1.3 Objectives of the study

1.3.1 General Objective

The general objective of the study was to assess major reforestation challenges in North 'A' district-Zanzibar.

1.3.2 Specific objectives

i) To examine the extent of community support on tree planting.
ii) To investigate social economic factors which affect tree planting in the community.
iii) To examine availability of seedling in the community.
iv) To determine the perceptions of community about tree planting program.

1.4 Research questions

To meet the objective of the study, this research was guided by the following questions:

i) To what extent is community supported in tree planting?
ii) What are the social-economic aspects that affect tree planting in the community?
iii) To what extent are tree seedlings in the community available?
iv) What are the perceptions of community about tree planting program?

1.5 Significance of the study

The study aims at bridging a knowledge gap in this topic as well as contributing to improve the existing policies related to forest in Zanzibar. The results of this study will provide adequate, relevant and useful information for academic purpose. Also it will help to improve other interventions on tree planting in North 'A' District and Zanzibar as a whole.

1.6 The scope of the study

The study was focused on researching major reforestation challenges in North 'A' District with a specific focus in two Shehias (villages), Jongowe and Mkokotoni.

CHAPTER TWO

LITERATURE REVIEW

2.0 Introduction

This chapter is divided into three main parts: the first is the theoretical literature review which presents the different concepts concerning forestation and related issues; the second is the empirical literature review which presents evidence found in the research area; the third is the conceptual framework which presents how the broad ideas of the study are used.

2.1 Theoretical literature review

2.1.1 Reforestation

Reforestation is the process of renewal during which a new stand of trees is regenerated on a forest site following a disturbance such as fire, wind throw, disease mortality or logging. Reforestation is an ongoing activity in managed woodland following harvesting, and requires knowledge of the forest site, the species involved, risks and constraints and the establishment techniques available. Reforestation also requires advance planning, as well as follow-up monitoring and tending to be successful.

Reforestation

Reforestation is the process of renewal during which a new stand of trees is regenerated on a forest site following a disturbance such as fire, wind throw, disease mortality or logging. Reforestation is an ongoing activity in managed woodland following harvesting, and requires knowledge of the forest site, the species involved, risks and constraints and the establishment techniques available. Reforestation also requires advance planning, as well as follow-up monitoring and tending to be successful (FAO, 2010).

Afforestation

Afforestation is similar to reforestation but involves establishing trees on sites that have previously been used for other purposes such as farm fields, old pasture lands, or lands that have been degraded in the past or subject to natural soil disturbing processes such as landslides, floods or glacial activity (FAO, 2010).

Tree

Is a plant of at least 1.35 m perennial wooded plant with distinct, well defined stem and carrying more or less define crown, capable of reaching 5 meters height *in situ*. In this study, acceptable tree measurement (sample tree) was minimum of 5 centimetres (cm) at breast height (FAO, 2010).

Deforestation

Is the conversion of forest to another land use or the long-term reduction of the tree canopy cover below the minimum 10 percent threshold, or, is defined as a 'measurable sustained decrease in crown cover' below a 10-30% threshold (FAO, 2010).

Forest

Forest is a minimum area of land of 0.05 hectares with tree crown cover (or equivalent stocking level) of more than 10 per cent with trees with the potential to reach a minimum height of 2 metres at maturity *in situ*. It includes (i) young stands of natural regeneration; (ii) all plantations which have yet to reach a crown density of 10-30 per cent or tree height of 2-5 metres; (iii) areas normally forming part of the forest area which are temporarily un-stocked as a result of human intervention such as harvesting or natural causes but which are expected to revert to forest (FAO, 2010).

Forest Degradation

Is the depletion of forest to tree crown cover greater than 10 percent (say from 90 percent to 12 percent). (FAO, 2010), define it as the removal of carbon stock

without loss of forest area or land use change. Or, defined as a loss of biomass density without a change in the area of forest cover (i.e. decrease in crown cover that does not fall below the 10 – 30% threshold).

2.1.2 Natural resource management

Within the broad field of rural development, natural resource management development is a main area of application of participatory approaches. In general terms, the purpose of these interventions is to improve the living conditions of local people, particularly the poor, by helping them to manage the natural resources available to them or under their control with greater effectiveness, sustainability and equity (Pimbert 2004).

The importance of participatory approaches to natural resource management lies in that: it elicits and makes visible diverse local realities, priorities, categories and indicators through participatory learning, it is still very much needed today to challenge top down, 'one size fits all' science, policy and practice in natural resource management. However, claims that one tradition of knowledge and practice (local, vernacular systems *versus* external, science-based systems) is always better than the other may ultimately restrict possibilities. Instead, a key challenge for participatory learning and action lies in creating safe spaces where plural traditions of knowledge can be purposefully combined for the local adaptive management of natural resources and their equitable (Pimbert 2004).

Participatory approaches to natural resource management have been implemented in connection with a considerable variety of natural resources, including forests and woodlands (Rai, 1998). Participatory approaches are naturally complemented, in some of these cases, by the use of a sustainable livelihoods framework, which considers that a livelihood comprises the capabilities, assets (including both material and social resources) and activities required for a means of living. Because it takes into account not only agricultural but other assets and activities as well, the livelihoods approach is particularly suited to natural resource management, where

very often the resources being dealt with are not of a strictly agricultural nature. Reddy *et al.* (2004), for example, analyse the impact of India's programme of watershed development on the livelihoods of rural communities, by looking at its impact on the five types of capital assets and strategies required for the means of living. They also analyse the vulnerability and stability of those capital assets as well as the participation in the programme. They conclude that, even in difficult environmental conditions where the watershed cannot bring direct irrigation benefits on a large scale, watershed development, if supported with other programmes, has potential for sustaining rural livelihoods.

2.1.3 Sources and communication channels of farming practices

There is need to use a combination of communication channels in order to improve the approaches for delivering message to the farming communities. The approaches include targeting settlement schemes and progressive farmers; establishment of farmers training centres setting up demonstration plots etc. However the methodologies and approaches failed to convert the extension services, into an instrument of agricultural growth in the country (MAC, 1997). Factors contributing to this state of affair include: (i) uncoordinated fragmented, duplication and overlapping massage flowing from extension personnel; (ii) poor supervision of extension personnel and utilization; (iii) some technologies promoted at research station have not been appropriate to farmers; (iv) poor working facilities; (v) lack of motivation and incentive for extension personnel; and (vi) insufficient number of extension personnel (Kauzeni, 1988).

There is a need for farmers to adopt farming technologies, by adopting technologies, farmers may resolve their problems. But before adopting any farming innovation there must be adequate and reliable local sources of farm information from extension workers or research centres concerning agricultural production (Kauzeni, 1988). The communication methods that extension agents (BEOs) commonly use to help farmers form opinions and make decisions can be classified into three groups. These are personal/individual methods, group methods and mass media methods.

Firstly are mass media methods, these are usually designed to create a general "awareness and interest" in new ideas among the people. Once made aware farmers would seek additional information from neighbours, friends, extension workers and progressive farmers in the area. The mass media can seldom bring about change in behaviour by themselves, farming and changing opinions, transferring knowledge (Van de Ban and Hawkins, 1982). These methods allow no immediate feedback between farmers and source of information or advice. The methods under this group include the written as well as the spoken words. The written words as posters newspapers and newsletters, folders, leaflets, brochures and circular letters, on the other hand the spoken words include radio broadcasts etc.

Secondly are group methods, these include meetings, method and result demonstrations, farm walk or tours, field days and short courses of instruction. These are generally used to advanced people from awareness and interest to be trial stages of accepting new practice (Kauzeni, 1988). If effectively arranged and conducted, they can take the advantage of the external and internal force of the group dynamic, which is farmers, can react to the extension workers and to the ideas expressed by the other members of the group. It is easier to induce social change by involving groups of people then attempting it through individual contact; this wider dissemination to a number of farmers in one occasion. This results in economizing on the time and the efforts that would be required to contact them individually.

Thirdly are individual methods, these methods involve direct contact between the VEO's and the farmers such as office calls, farm and home visit, unplanned encounters, telephone calls, personal letters and correspondence. The methods are used in order to become acquainted with and gain the confidence of the farmers to discuss and observe farm problems on the spot to teach skills and to give the farmers the first hand farming information and advice (Kauzeni, 1988). Frequently individual meetings are needed to persuade a farmer to adopt a new practice. But these methods are the most expensive in terms of both time and efforts needed. Furthermore, only a relatively few people can be affected by these methods directly (Van de Ban and Hawkins, 1982).

It is generally acknowledged that no single communication method is best in all cases. Furthermore a particular method of communication may be effective and applicable under a given set of conditions and with a given set of people but may not be so in a different situation (Kauzeni, 1988). The effectiveness of a method depends among other factors, upon the structure of the society, the pattern of behaviours of individuals, traditions and customs, the stage of socio-economic and religious development, ages, degree and standard of literacy, policy making process and behind all integrity of the extension worker behind the program (Van de Ban and Hawkins, 1982). Generally, awareness-raising is understood to be a constructive and potentially catalytic force that ultimately leads to a positive change in actions and behaviours. An effective awareness-raising campaign strategy will employ a variety of different communication approaches and techniques to ensure that the central message is received and understood by a diverse audience. These changes may be sought by stakeholders in individuals, groups, organisations, communities or societies (UNESCO, 2006).

2.1.4 People's participation in development process

The term 'participation' has recently come to play a central role in the discourse of rural development practitioners and policy makers. At the same time, people's interpretations of the term and criticisms of other people's interpretations have multiplied, and the intentions and results of much participation in practice have been questioned or even denounced. Participation has become a hotly contested term, with deep implications for the ways in which community, society, citizenship, the rights of the poor and rural development itself are conceived, and for the policies that are formulated about and around some of these concepts and the social realities to which they refer (Freire, 1972).

People's participation as a concept was formulated or rediscovered in the 1970s. This was in response to the growing awareness that the various approaches employed for rural development, such as community development, integrated rural development.

The concept developed to speed up rural development and especially poverty reduction. Before this concept there was little involvement in development projects of those undergoing development, and particularly the poor (Freire, 1972).

Cohen and Uphoff (1977) stressed the importance of participation in the various stages of the project cycle, particularly decision making and evaluation, rather than simply sharing in the benefits of projects. Pearse and Stifel (1979) complemented this by stressing control and issues of power. Participation can be seen as a process of empowerment of the deprived and the excluded. This view is based on the recognition of differences in political and economic power among different social groups and classes. Participation in this sense necessitates the creation of organisations of the poor which are democratic, independent and self-reliant (Ghai, 1988).

Two other definitions are associated with international agencies, namely, participatory development and Participatory Rural Apprisal (PRA). Participatory development stands for partnership which is built upon the basis of dialogue among the various actors, during which the agenda is jointly set, and local views and indigenous knowledge are deliberately sought and respected. This implies negotiation rather than the dominance of an externally set project agenda. Thus people become actors instead of being beneficiaries. Participation is a process through which stakeholder's influence and share control over development initiatives and the decisions and resources which affect them (Ghai, 1988).

The use of PRA has helped involve communities in the various decisions concerning their own development, including appraisal, planning, implementation, monitoring and evaluation. The 'developers' have also benefited from the interactions of PRA, in the sense that development practitioners have become more open to and respectful of local knowledge and more receptive to local priorities for research, action and policy. This has also helped development and research-oriented organizations move away from top-down, standardized procedures and towards a more open culture of learning (Guijt and Cornwall, 1995).

In the early 1990s, as donor agencies and international NGOs caught on to its potential, the practice of PRA spread very fast to many countries and organizations, initially in the NGO sector but increasingly also in government departments, aid agencies and universities. This was the high point of neo-liberalism, and 'PRA's potential to deliver "locally owned" and "community-based" solutions which led to meteoric uptake – in speed and scale' (Guijt and Cornwall, 2005). As often happens in similar cases, scaling up created problems. Abuse and bad practice became common, which prompted soul-searching on the part of a number of people close to the core of the PRA 'community of practice'.

With regard to rural development, participation include people's involvement in decision-making process, in implementing programmes, their sharing in the benefits of development program and their involvement in efforts to evaluate such programs (Cohen and Uphoff, 1977). It is concerned with the organized effort to increase control over resources and regulative institutions in given social situations on the part of groups and movements of those hitherto excluded from such control'(Pearse and Stifel, 1979).

The major factors in people's participation in development are two: i) structural relationships and the importance of developing people's capacities and skills to negotiate and to seek the resources and changes which they require in order to improve their live; and ii) the methods and techniques whereby local people can be brought to play a part and to develop a stake in development program and projects. Both factors are of equal importance. The former seeks longer term sustainable development for poor people, while the latter is needed in providing immediate access to the benefits of development (Pearse and Stifel, 1979).

2.1.5 Benefits of forest conservation

The benefits of the maintenance of tropical forests include provision of biodiversity, ecological balance and income generation for local people. These benefits of forest conservation are summarized in Table 2.1.

Table 2.1: Direct and Indirect Benefits of Tropical Forest Conservation

Use value		**Non-use value**	
(1)	**(2)**	**(3)**	**(4)**
Direct value	+ Indirect value	+ Option value	+ Existence value
Sustainable timber	Nutrient cycling	Future uses of (1) and (2)	Forests as objects of inherent value, as bequest, as gift, as responsibility
Recreation	Micro-climate		
Medicine	Air pollution reduction		
Non-timber products			
Plant genetics	Watershed protection		
Education	Carbon fixing		
Human habitat			

Source: Pearce (1991).

Certain benefits accrue to local communities and populations, for example the subsistence use of timber and non-timber forest products. Other benefits, such as erosion control and water shed protection functions accrue regionally or nationally. Benefits from carbon sequestration and protection of biodiversity are global in scale (Brown, K. and Adger, N. 1990). Forest is involved in stabilizing soil, conserving nutrients, and moderating water supplies, especially in a world currently threatened by climate change and global warming. Jagger and Pender (2000) reported the importance of forest to include: provision of biomass, watershed management, soil nutrient and water retention, fodder for livestock, construction materials and source of income. Ward and Robinson (1990) observed that vegetation increases the infiltration capacity of soil by retarding surface water movement, reducing raindrop impact and improving soil moisture. These authors further reported that infiltration rate is generally higher beneath forest due to presence of litter.

A number of studies now exist which indicate that the economic value of sustainable harvested timber and the non-timber forest products of tropical forests may be

considerably greater than the gain from clear cutting for timber production. Although economic prescriptions for the conservation of rainforests may use their option value as justification, successful prescriptions will depend on mechanisms for the increased local capture of full range of benefits (Brown, K. and Adger, N. 1990).

The benefits of aforestation schemes are of a different profile. The carbon sequestration profile of new aforestation is steeper in the first instance, depending on previous land use, climatic conditions and species planted. The local economic and environmental effects of aforestation depend on whether this is undertaken through plantation monoculture aforestation or through sustainable agro-forestry. Related to the sovereignty issue is that of whether the forestry projects are in themselves desirable on social grounds. It is debatable it whether shifting property rights from local rights to global benefits leads to the undervaluing of these local benefits in the decision-making process (Brown, K. and Adger, N. 1990).

2.1.6 Deforestation and forest degradation

The term deforestation means the loss of forests and/or describes the process of removing trees by over cutting forests and converting the land to other use. Forest degradation, on the other hand, refers to reduced forest quality and the reductions in forest carbon and changes within the forest cover (from closed to open forest). FAO, (2003) defines deforestation as "the conversion of forest to another land use or the long-term reduction of the tree canopy cover below the minimum 10 percent threshold." Depletion of forest to tree crown cover greater than 10 percent (say from 90 percent to 12 percent) is considered forest degradation. Logging most often falls under the category of forest degradation and thus is not included in FAO deforestation statistics. For this reason, forest degradation rates are a great deal higher than deforestation rates (FAO, 2007).

Deforestation

Kombo *et al*, (2002) define deforestation as the clearance of naturally occurring forests by logging and burning and replacing it with something else.

The rate of destruction of forests by human beings and their replacement by agricultural systems is high in the tropics, where the poor quality of the soil has led to the practice of routine clear-cutting to make new soil available for agricultural use. Historically, people and their economic activities have been viewed as threats to the undisturbed functioning of natural ecosystems.

Deforestation can lead to erosion, drought, loss of biodiversity through extinction of plant and animal species, and increased atmospheric carbon dioxide. Deforested regions typically incur significant adverse soil erosion and frequently degrade into wasteland (Kombo *et al.*, 2002). The removal of trees without sufficient reforestation has resulted in damage of habitat, biodiversity loss and aridity. This has diverse impact on bio-sequestration of atmospheric carbon dioxide.

Deforestation occurs for many reasons including felling of trees for firewood or making charcoal used as fuel or sold, for fuel i.e. as a commodity, or again clearing land for use as pasture for livestock. To prevent this occurrence many nations have undertaken forestation or reforestation projects to increase available timber (Kombo et al., 2002).

Effects of deforestation

a) Erosion of Soil

When forest areas are cleared, it results in exposing the soil to the sun, making it very dry and eventually, infertile, due to volatile nutrients such as nitrogen being lost. In addition, when there is rainfall, it washes away the rest of the nutrients, which flow with the rainwater into waterways. Because of this, merely replanting trees may not help in solving the problems caused by deforestation, for by the time the trees mature, the soil will be totally devoid of essential nutrients. Ultimately, cultivation in this land will also become impossible, resulting in the land becoming useless. Large tracts of land will be rendered permanently impoverished due to soil erosion (Masoud R.S, 1990).

b) Disruption of the Water Cycle

Trees contribute in a large way in maintaining the water cycle. They draw up water via their roots, which are then released into the atmosphere. A large part of the water that circulates in the ecosystem of rainforests, for instance, remains inside the plants. When these trees are cut down it results in the climate getting drier in that area (Masoud R.S, 1990).

c) Loss of Biodiversity

The unique biodiversity of various geographical areas is being lost on a scale that is quite unprecedented. Even though tropical rainforests make up just 6 percent of the surface area of the Earth, about 80-90 percent of the entire species of the world exist here. Due to massive deforestation, about 50 to 100 species of animals are being lost each day. The outcome of which is the extinction of animals and plants on a massive scale (Masoud R. S, 1990).

d) Flooding and Drought

One of the vital functions of forests is to absorb and store great amounts of water quickly when there are heavy rains. When forests are cut down, this regulation of the flow of water is disrupted, which leads to alternating periods of flood and then drought in the affected area (Masoud R.S, 1990).

e) Climatic Change

It is well known that global warming is being caused largely due to emissions of greenhouse gases like carbon dioxide into the atmosphere. However, what is not known quite as well is that deforestation has a direction association with carbon dioxide emissions into the atmosphere. Trees act as a major storage depot for carbon, since they absorb carbon dioxide from the atmosphere, which is then used to produce carbohydrates, fats, and proteins that make up trees. When deforestation occurs, many of the trees are burnt or they are allowed to rot, which results in releasing the carbon that is stored in them as carbon dioxide. This, in turn, leads to greater concentrations of carbon dioxide in the atmosphere (Masoud R.S, 1990).

2.1.7 Socio-economic activities relating to demand of forest

Human society cannot survive without a continuous supply of energy. Adequate fuels for cooking and lighting are as essential basic needs as adequate food, clothing, and shelter. Fuel wood has been the main source of cooking energy for centuries. Today, the industrialized and oil-rich countries have shifted away from firewood and charcoal to modern forms of energy. This trend has not been an easy process in the developing world. Most rural and urban people in Africa, Asia and Latin America still rely on trees and woody vegetation to meet their basic energy needs. In some of these countries, fuel wood also plays a dominant role in non household sectors (Leach and Mearns, 1988).

In sub-Saharan Africa, this bio-energy accounts for an estimated 60-95 percent of the total energy use, with the highest proportion in the poorest countries and the household sector (Leach and Mearns, 1988). The demand for wood resources in many developing countries is increasingly outstripping the supply, causing fuel wood shortages in some areas. This imbalance has caused many socio-economic and ecological repercussions.

Rural fuel wood consumption rarely causes deforestation. Urban fuel wood demand, however, can be one major factor causing deforestation, because it reinforces other local demands that can greatly accelerate the depletion process. Another common factor responsible for deforestation is shifting cultivation. A country's demand for energy is closely linked to socio-economic and geographic factors of the country, such as the size of population, the degree of urbanization, level of technology, dietary patterns, and the climatic conditions. Economic conditions influence the supplies and accessibility of different sources of energy, and therefore dictate the effective demand by different countries and by different income groups (Foley and Barnard 1984, Leach 1987).

In developing countries with limited resources, forest depletion may lead to soaring prices of wood in the urban areas, a growing drain on the household incomes of the

urban poor, wasteful burning of crop residues and animal manure to cook food rather than help to produce it, soil erosion, land degradation, reduced agricultural output, reduced number of cooking meals and hence malnutrition. Therefore, as fuel wood becomes scarce, the cost of obtaining it (in terms of cash or time for gathering) increases. This change will impose severe and increasing strains on the already strained survival and production strategies of poor households (Leach and Mearns 1988).

Many countries and families in the developing countries, use wood fuel as their major source of energy (Bruce *et al.*, 2000). About 93% and 84% of rural and urban Tanzanian households respectively, depend on wood fuel for their energy needs. Although biomass is the main source of energy in Tanzania, its supply potential is rapidly declining. The excessive dependence on wood fuel has resulted into degradation of environment and increased wood fuel scarcity in many regions in the country (Annon, 2001). Due to economic distortions, the majority of Tanzanians cannot afford alternative energy sources such as electricity, petroleum products, solar systems and biogas plants. This implies that biomass fuels will continue to be the major sources of energy now and in the future for the majority. On the other hand, this will mean more pressure on the already dwindling natural forest environment.

2.1.8 Policies related to forest

Neil Brown, (1992) observes that forest policy and its execution must be in compliance with the constitutional framework of the country and existing national laws and regulations. Theoretically, a forest policy and its components cannot be at odds with the basic constitution and laws of the country although in practice this may be the case until the conflict is resolved, he points out. The policy of landscape for forestry or land management is rather cluttered, leading to petitions for more integrated approach to reduce fragmentation (DCCFF, 2007 and Ellfoson, 2003). Although forestry is undoubtedly part of the rural economy, its role needs to be

enhanced by encouraging a greater level of integration between forestry, agriculture and other rural enterprises such as tourism.

2.1.9 Policy implementation

In general, policy implementation can be considered the process of carrying out a government decision (Berman, 1978). In defining policy implementation, it is useful to make the conceptual distinction between the policy implementation process and policy outcomes, even though these are interactive in practice (O'Toole, 2000). The process involves action on the behalf of the policy, whereas policy outcomes refer to the ultimate effect on the policy problem. Ottoson and Green (1987) suggest that implementation is an iterative process in which ideas expressed as policy, are transformed into behaviour and expressed as social action. The social action transformed from the policy is typically aimed at social betterment and most frequently manifests as programs, procedures, regulations, or practices.

2.2 Empirical literature review

The National Forest Policy for Zanzibar (1999)

The goals of the National Forest Policy for Zanzibar were set for the interests and objectives of the government and the people of Zanzibar in the conservation and development of forest resources. The general goal is to protect, conserve and develop forest resources for the social, economic and environmental benefit of present and future generations of the people of Zanzibar (RGoR, 1999).

Specifically, the goals are to strengthen the role of forestry in alleviating poverty and increasing equity in resource management and utilization, strengthen the role of forest resources in promoting economic development, in meeting demand for forest products, in creating income and in increasing national revenues and efficiency, protect and conserve forest resources, including wildlife and flora, enhance the role of forest resources in maintaining soil and water conservation and other environmental benefits. The main strategies for meeting these goals include enhancing the ability of Zanzibar forests to meet the demand for forest products,

within the framework of sustainable management and promote efficient forest product utilization and substitution measures (RGoR, 1999).

The National Forest Policy for Zanzibar (1999) under policy group one – community forestry policies emphases that it shall be the policy of the Government of Zanzibar to encourage the active involvement of local people in the sustainable planning, management and conservation of forest resources through community forestry programmes. Community forest refers to the involvement of target groups (at village, group, and individual level) as the principal factors in the planning and implementation of sustainable forestry programmes. The basic objectives of community forestry are threefold, the provision of fuel and other essential goods, environmental stability to ensure food production, and income and employment in the rural community (RGoR, 1999).

A solid institutional framework is required for the implementation of community forestry polices. There are three main elements necessary for this framework: 1) an efficient forestry extension and training service, able not only to provide technical expertise, but to support communities in the building and strengthening of local institutions, 2) an adequate research scheme including participatory research programmes‘ 3) an integrated legislation establishing a secure and flexible legal framework for community initiatives (RGoR, 1999).

The National Environmental Policy for Zanzibar (1992)

The aim of the environment policy, on the other hand, is to ensure that proper environment management accompanies economic development, so that Zanzibar natural heritage is passed on undiminished to future generations. The policy recognizes the essential link between sustainable development and sound environmental management. It also recognizes the special limitations and vulnerability of islands ecosystems, which increase the need for cooperation between all sectors of government and society and for commitment by all sectors to the agreed environment policy. The primary objective of the National Environmental policy is to protect and manage the country's environmental assets,

such that their capacity to sustain development is unimpaired and Zanzibar is rich environmental endowment is available for future generations to enjoy and use wisely (DOE, 1992). From these two policies we can learn that both have the common target of conserving natural resources and environment for the benefit of the present and future generations.

It is noted that for long there has been increasing high demand for forest use. According to Owen M. (1993) the annual market size for wood fuels in Zanzibar town amount to about 129,00m^3 of dry wood equivalent, or about 2.6 million bundles of firewood and 740,000 baskets of charcoal. The market value of these wood fuels is about Tshs. 383 million per year. He also found that 76% of wood fuels to Zanzibar town come from primarily central and southern districts where coral rag bushes are being cleared for shifting cultivation.

Commission for Natural Resources (1997) found that household wood fuel consumption by volume is almost five times that of charcoal. Per capita consumption of solid wood for energy is higher in urban areas (0.6-0.8m^3/annum) than in rural areas (0.4m^3/annum), where coconut residues are burnt as a free or cheap alternative fuel sources. However, in the rural areas which have abundant firewood resources, consumption is relatively high (despite low incomes), as firewood is seen as a free energy source; no value being imputed to time spent collecting it. Collection time may, however, have an opportunity cost of other productive activities foregone.

Foley and Barnard (1984) and Leach, (1987) said that, rural fuel wood consumption rarely causes deforestation. Urban fuel wood demand, however, can be one major factor causing deforestation, because it reinforces other local demands that can greatly accelerate the depletion process.

Fadhilas, (1994) said that the individual households cultivated from less than one to more than 3 acres, in this distribution 60% of the farmers cultivate less than to equal

to one acre, and 37% of the farmers cultivate between 2 to 3 acres, while only 3% cultivate more than 3 acres.

It was noted also that, economic conditions influence the supplies and accessibility of different sources of energy, and therefore dictate the effective demand by different countries and by different income groups. Obviously, there has been a gap between supply and demand of fuel wood in Zanzibar (ZFDP, 1993).

Masoud R.S (1990) in his study Zanzibar Forestry Development Project Technical Paper Number 3 argued that, the demands for agricultural land and commercial fuel wood have considerably reduced the fallow periods in the coral rag areas. In some areas the fallow period is now 2-4 years, compared to fallows of 20-25 years that prevailed twenty years ago. As a result, agricultural production has sharply declined, leading to food insecurity and increased rural poverty. Cutting trees for firewood and charcoal is valued by rural residents as a way to earn money quickly.

Also Masoud R.S (1990) said that, shifting cultivation and urban fuel wood demand are the major causes of deforestation in the Island. The increasing demand for wood fuel in the town and rapid population growth will exert more pressure on the limited forest resources for food and cash needs. If corrective measures are not taken soon, the impacts will lead to land degradation, which could mean failure of agricultural crops and hence increased rural poverty.

Pretty et al (1995) noted participation along a spectrum with passive participation at one end and self-mobilisation at the other end. Passive participation is where people are told what to do. On the other end self-mobilisation is where the local people themselves are in total command. At one end of the spectrum, passive participation, and people's control is almost non-existent while at the other end, self-mobilisation of people has almost total control over the processes while the role of outsiders is at best minimal.

From the above literatures it can be concluded that, significantly, the National Forest Policy for Zanzibar was laid down for the purpose of increasing the number of trees in Zanzibar.
Its implementation started immediately with the support of several stakeholders. However it was observed that reforestation rate was less than deforestation rate. Hence the need to conduct a study to assess major forestation challenges in North 'A' district- Zanzibar.

2.3 Conceptual framework

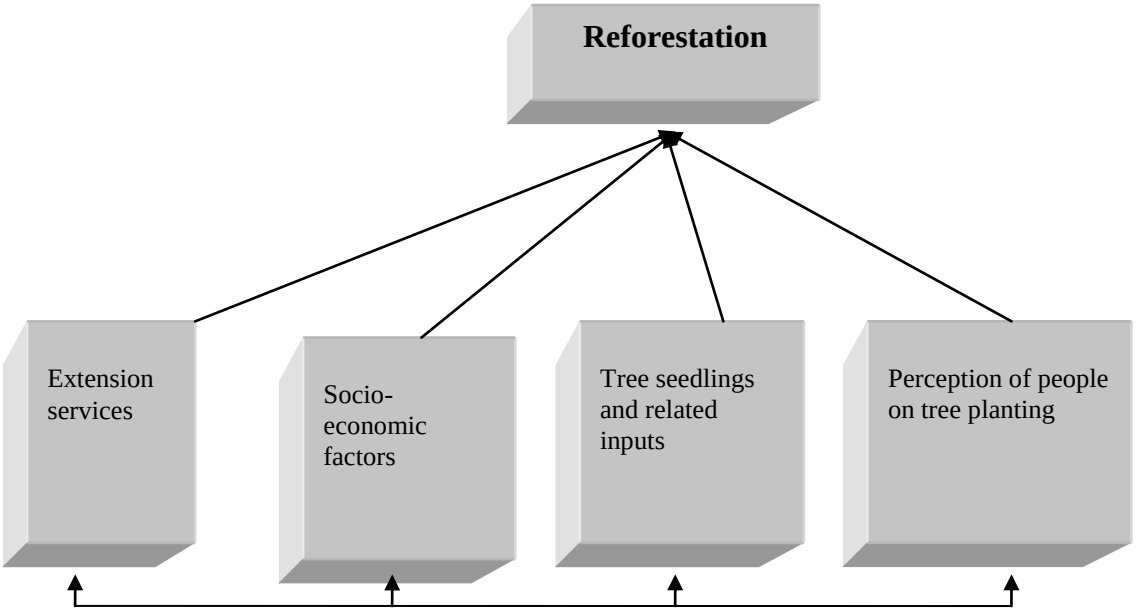
A conceptual framework is defined as broad ideas and principles taken from relevant fields of inquiry and used to structure a subsequent presentation (Donald K. and Delno L. 2006). It is a research tool intended to assist a researcher to develop awareness and understanding of the situation under scrutiny and to communicate with it.

The conceptual framework of this research is developed by using the Theory of Change. This theory articulates the underlying beliefs and assumptions that guide a service delivery strategy believed to be critical for producing change and improvement. The change represents beliefs about what is needed by the target population and what strategies will enable them to meet those needs. It shows the relationship between population, strategies and outcome. Population is the targeted community where study will be conducted and where respondents will be selected. Strategies are the government commitment derived from the Forest Policy for Zanzibar while the outcome is the intended result (reforestation) after implementing various interventions.

Figure 2.1 shows the relationship between the government interventions undertaken to facilitate tree planting programmes in Zanzibar specifically by encouraging and supporting rural people, both men and women, to grow appropriate multi-purpose trees, in community woodlots, in agro-forestry configurations or in other arrangements that are suitable to their specific needs, capacities and customs. The

research is designed to assess the major reforestation challenges in Kaskazini 'A' districts. Specifically the research will examine The National Forest Policy for Zanzibar of 1999.

Figure 2.1: The Conceptual Framework of the Study



Source: Researcher's own construct, 2014

The dependent variable of this study is reforestation. This will be attained through combination of various issues as shown in Figure 2.1. Independent variables will used to explain how the dependent variable will be achieved. In this study, the independent variables that will be studied are extension services, socio-economic factors, availability of tree seedling, and perception of people on tree planting.

CHAPTER THREE

RESEARCH METHODOLOGY

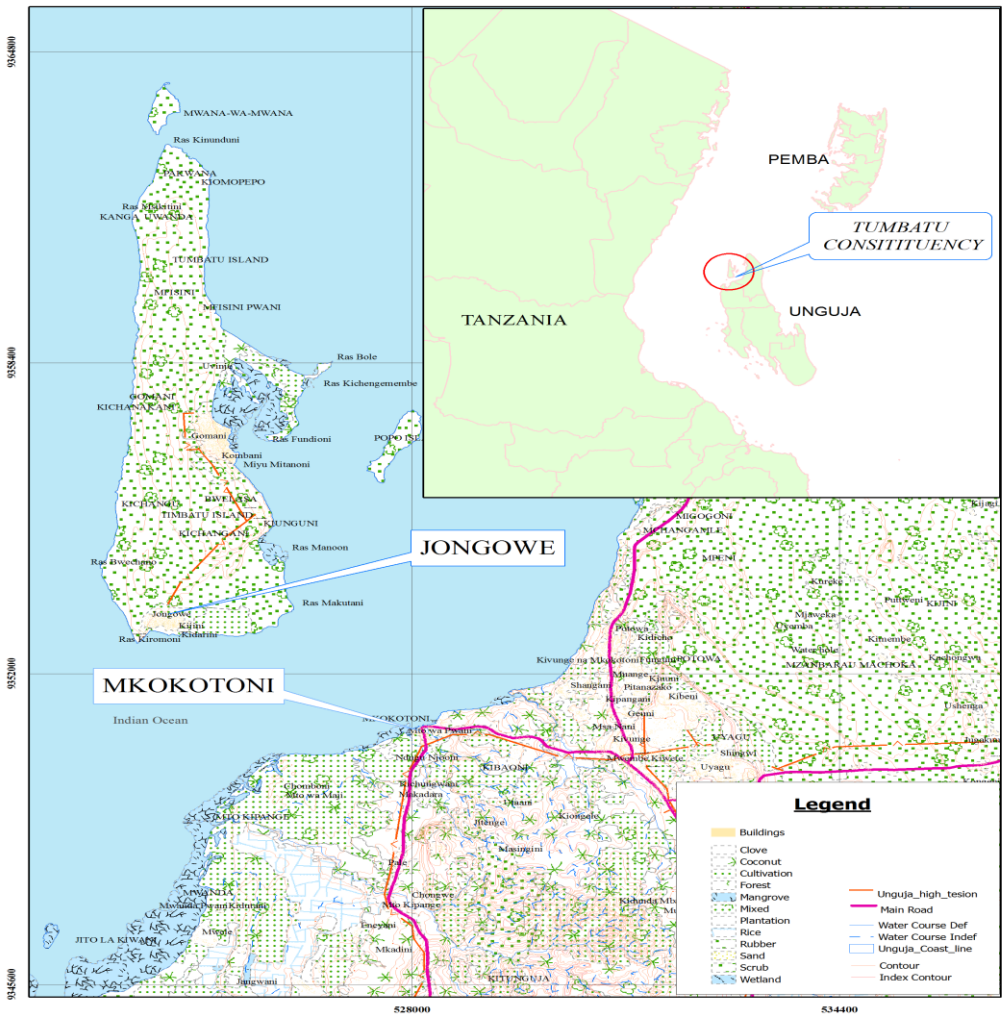
3.0 Introduction

This chapter presents methodology and procedure intended to be adopted in the process of conducting the study. The chapter is subdivided into several sub-components including area of study; research design; unit of analysis; study units; sampling procedure; data collection methods and analytical tools.

3.1 Study Area

The Kaskazini "A" District is one of two districts in Unguja Kaskazini Region, Zanzibar. It shares boundaries with Kaskazini "B" districts in South, Indian ocean in East, North and West. Kaskazini "A" district population is 105,780 with growth rate of 3.1%. Male population is 51,566 while female is 54,214. The district has an area of 211km^2; the land is almost plain with undulated hills in some areas and others typical coral rag land. Sand soil, which is somehow fertile and suitable for cultivation of variety of crops such as paddy, roots and tubers, fruits, bananas, coconuts, cloves and cassava. In the North east and in Tumbatu Island is coral where farming is not conducive (URT, 2012). The choice was made based on the researcher's access to information and the study area happened to practice shifting cultivation in some areas which claimed to be among the sources of deforestation. Also there is not enough research information obtained in the areas. Figure 3.1 shows the map of the study area.

Figure 3.1: Map of the Study area



Source: Department of Survey and Mapping, Zanzibar, 2014

3.1.1 Climate

Kaskazini "A" district is Tropical in nature with sun overhead of equator on March and October. The temperature of 27^0C and 40^0C with average annual temperature of 27^0C. There are two wet seasons, the Masika rains from mid March to early June, during which the precipitation is between 900mm to 1000mm and vuli rains from October to December, during which the rainfall is between 400mm to 500mm (MANRE, 2006).

3.1.2 Socio-economic situation

Most of the people in the district are engaged in farming and fishing. Others engaged on non-farm activities such as small scale carpentry, small business, masonry, bicycles repair, a few public service employees like teachers and health workers. Tourist industries have recently been another main sector that generates employment of many youths (URT, 2012).

3.2 Research Design

The study adopted a cross-sectional design because this design is reasonably priced and takes little time to conduct, and is conducted at one point. The design is usually used to estimate the outcome of interest for a given population commonly for planning purpose (Kothari, 2004). The researcher collected data at single point in time using questionnaire for individual respondents and key informant. Both qualitative and quantitative data were collected. The data collected allows investigation of the major reforestation challenges at Jongowe and Mkokotoni Shehias.

3.3 Sampling Procedure, Sampling Frame, Sampling Unit and Sample Size

3.3.1 Sampling Procedures

Sampling is the procedure a researcher uses to gather people, places or thing to study. It is a process which involves selecting a number of individuals or objects from a population randomly (Bhattacherjee A. 2012). In this study, a combination of probability and non-probability sampling procedures were employed for drawing sample in the proposed study. Simple random sampling procedures were used to select community members and purposive sampling used to select Forest officers, Community Forest Officers, Group members and Shehas.

3.3.2 Sampling frame

The sampling frame of the study will compose a list of community members at Jongowe and Mkokotoni villages. Forest officers from the District and Head Office and Village
leader (Sheha). They will be interviewed to get relevant data for the study.

3.3.3 Sampling unit

The appropriate sampling unit were individual person, village leaders and forest Officers from District and Head Office. This is because tree planting involves all stakeholders mentioned in this part.

3.3.4 Sample size

Data were collected from a sample of 90 community members (45 each village), 2 Forest Officers (1 from Head Office and 1 from District) and 2 village leaders (Sheha). The sample size derived from the following formula:

$$n = \frac{N}{(1+N)\,e^{\wedge}2}$$

Where, n=number of sample size; N=number of the total population in the study area; e=percentage of error; and 1= constant

3.4 Data Collection/Research Instruments

Data collection is the process of gathering specific information aimed at proving or providing the answers to the researcher's questions (Bhattacherjee A. 2012). To accomplish this, the researcher must have clear understanding of what she/he want/hope to obtain and how to obtain it. In fulfilling this requirement, the proposed study is intended to use the following three types of data collection instruments to obtain relevant data.

3.4.1 Questionnaires

Questionnaire is a schedule of questions in which respondents fill in answers (Ndunguru, 2007). In the proposed study, two types of questionnaires were prepared in order to collect data from respondents. One for the household questionnaire used to solicit information from the selected households and second for Shehas, Extension Officers, forest Officer from District and Head Office. Data from 94 respondents were collected by using questionnaires.

A pre-test was conducted before the study. Questionnaires were pre-tested on 10 households in the district. The main objective of the pre-test was to test the way in which respondents understand and interpret the main questions. Observations from the pre-test were used to improve the questionnaires before conducting the intended study.

3.4.2 Interviews

The interview method of collecting data involves presentation of oral-verbal stimuli and reply in terms of oral-verbal responses (Kothari, 2004). It is two-way systematic conversation between an investigator and an informant, initiated for obtaining information relevant to a specific study. Usually, interviewing style is informal, guided by a few broad topics rather than a detailed questionnaire. In this study, interviews were conducted in order to collect additional information mainly qualitative information which the questionnaires could otherwise not able to collect. An interview guide was prepared to have consistency in asking questions. This method is preferred because it encourages participants to respond more openly and confidentially. By using this method, additional data were collected from Extension forest Officers (1 from Head Office and 1 from District).

3.4.3 Observation method

Observation is defined as a systematic viewing of a specific phenomenon in its proper setting for the specific purpose of gathering data for a particular study

(Kothari, 2004). As a method observation includes both viewing and hearing. Under this method, the information is sought by way of investigator's own observation without asking from the respondent. The main advantage of this method is that subjective bias is eliminated if the observation method is done correctly. Secondly, the information gathered through this method relate to what is currently happening on the ground.

3.4.4 Secondary data collection methods (Documentary Sources)

Secondary data means data that are already available i.e. they refer to the data which have already been collected and analyzed by someone (Kothari, 2004). Basically, secondary data may either be published data or unpublished data. Usually published data includes various publication of central and local governments, books, magazines and newspapers; reports and publication of various association connected with business and industry; report prepared by research scholars, universities in different fields; public records and statistics, historical documents, and other sources of published data.

The sources of unpublished data are found in diaries, letters, unpublished biographies and the like. For the purpose of this study, the collection of secondary data involved review of different documents which are relevant to the topic under study. The major documents revisited includes MKUZA I and MKUZA II, Zanzibar Vision 2020, The Forest Policy for Zanzibar and the like. These documents were examined in order to obtain details about planning, budgeting and implementation of programmes and projects concerning implementation of the Forest Policy for Zanzibar.

3.5 Data Processing, Analysis and Presentation

3.5.1 Data processing

Technically, data processing implies editing, coding, classification and tabulation of collected data so that they are amenable to analysis (Kothari, 2004).

Editing: Editing of data is a process of examining the collected raw data aimed to detect errors and omissions and to make the corrective measures when possible. It involves a careful scrutiny of the completed questionnaires and/or schedules. Technically speaking, editing is done to ensure that the data are accurate, consistent with other facts gathered, uniformly entered, as complete as possible to ensure smooth facilitation on coding and tabulation. Under the proposed study, field data editing was conducted where the researcher reviewed the reporting forms immediately after interview.

Coding: Coding refers to the process of assigning numerals or other symbols to answers so that response can be put into a limited number of categories or classes. Coding is necessary for efficient analysis and through it the several replies may be reduced to a small number of classes which contain the critical information required for analysis. In this study researcher assigned numbers in the questionnaires to make data meaningful and allow smooth analysis of information.

Classification: Classification makes it possible for large volumes of raw data to be reduced into homogeneous groups to get meaningful relationships. Under this study classification data having common characteristics were placed in one class. In this way the entire data were divided into a number of groups or classes.

Tabulation: This is the process of summarizing raw data and displaying the same in compact form (i.e. in the form of statistical tables) for further analysis. It is an orderly arrangement of data in column and rows. The researcher applied tabulation because it conserves space and reduce explanatory and descriptive statements to a minimum. Also it helps the process of comparison, summations of items and the detection of errors and omissions. Furthermore, it provides basis for various statistical computations.

3.5.2 Data analysis

Data analysis refers to examining what has been collected in a survey or experiment and making deductions and inferences (Kothari, 2004). It involves scrutinizing the acquired information and making inferences. The collected data analyzed by the use of Statistical Package for Social Science (SPSS) version 15 to compute frequencies, mean and standard deviation and Excel program was used to draw graphs and charts.

3.5.3 Data presentation

It involves the presentation of research findings through diagrams, maps, and graphs. Findings can be accessed through newspapers, newsletters, journals and advertisements. For the purpose of this study, data presented by using various methods including tables, pie charts and percentages which seem to be more impressive to ordinary persons.

CHAPTER FOUR

RESULTS PRESENTATION, ANALYSIS AND DISCUSSION

4.0 Introduction

This chapter presents analysis and discusses the results of the study of the implementation of Zanzibar Forest Policy of 1999 on major reforestation challenges in North 'A' district of Jongowe and Mkokotoni Shehias. The study focuses on the strategy of encouraging and supporting rural people, both men and women, to grow appropriate multi-purpose trees, in community woodlots, in agro-forestry configurations or in other arrangements that are suitable to their specific needs, capacities and customs. Basically the results presented rely on the information obtained from selected respondents. The chapter is sub-divided into five sections: a) socio-economic characteristics of respondents, b) the extent of community support on tree planting; c) social economic factors which affect tree planting in the community; d) availability of seedling in the community; and e) the perceptions of community about tree planting program.

4.1 Socio-economic characteristics of respondents

The characteristics of respondents examined in the study were age, marital status and education level.

4.1.1 Age of respondents

Table 4.1 show that a total of 90 respondents were interviewed. The age of respondents ranged from 15-25 and above 56 years. Age grouping was based on the idea that, one is considered economically productive from the age of less than 30 years to 50 years old. Data shows that greater percentages (50%) of respondents were 15-35 years of age category, (35%) respondents were 36-55 years and the rest (14%) were in the age of above 56 years. The findings disclose that majority of respondents were aged between 15-35 years (50%). The results imply that majority of the respondents are in the middle age group, which fall within the economically

active and productive group. At these age groups, women are mature individuals, fully responsible about their future and families. However according to Basnayake and Gunaratne (2002), the age of a person usually is a factor that can explain the level of production and efficiency.

Table 4.1: Distribution of respondents by age

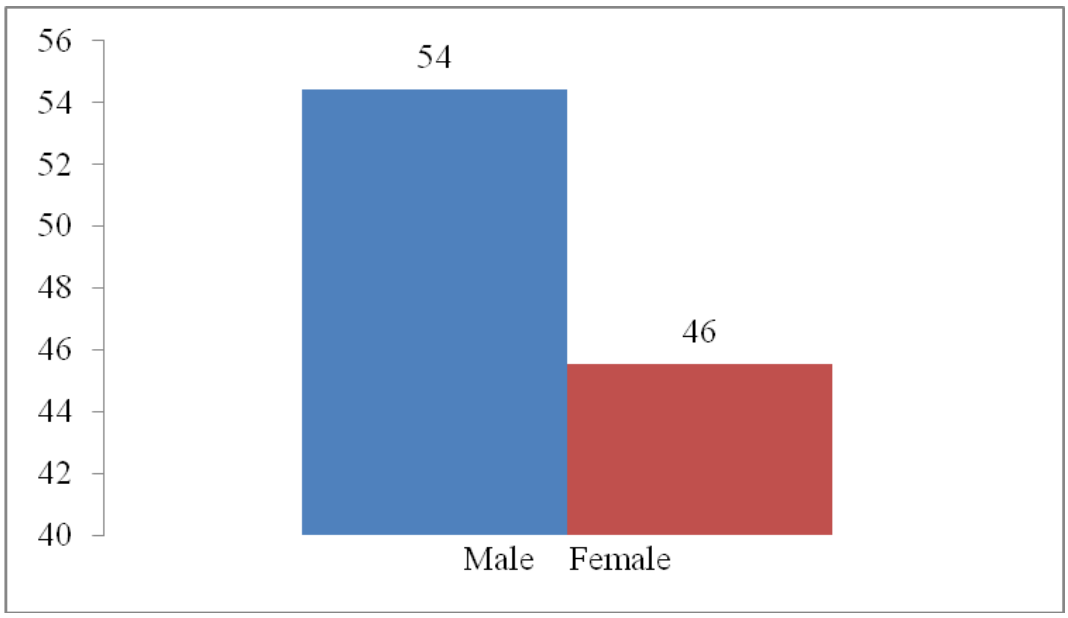
Age of respondents	Frequency	Percent
15-25	18	20
26-35	27	30
36-45	13	14
46-55	19	21
> 56	13	14
Total	**90**	**100**

Source: Field work (2015)

4.1.2 Sex of Respondents

The study was interested to identify the sex of the respondent so as to measure the involvement of men and women in reforestation programmes in the study area. The study had a total of 90 respondents. Majority of them (54 %) were male while (46%) respondents were female. This is illustrated by Figure 4.1. Men and women were considered in this study due to the fact that they are both involved in the different socio economic activity. In this study both were involved in using forest products such as to find fire wood and timber.

Figure 4.1: Distribution of respondents by sex

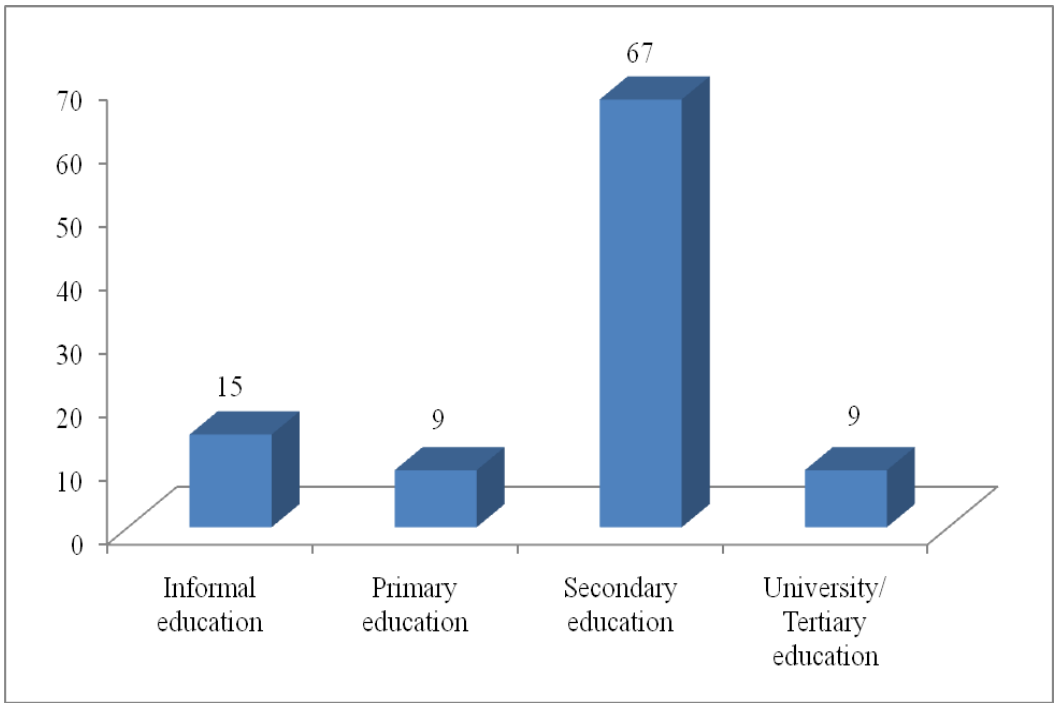


Source: Field work (2015)

4.1.3 Education level of respondents

The study asked the respondents to state their level of education because education is always regarded and valued as a means of liberation from ignorance. The findings of this study shown in Figure 4.2 indicate that, the greatest percentage of respondents interviewed, 60 (67%) had secondary education level and above, 13 (15%) had primary education, 8 (9%), had informal education and 8 (9%) had tertiary education. The result implies that most of respondents have an ability to scrutinize any information and make decision on it. It is perceived as among the factors that influence an individual's perception of an intervention before making decision to take part. It also imparts the desire to learn more and seek information regarding agricultural farm activities. Education allows respondents to seek more knowledge before adopting any farming innovation from reliable local sources of farm information (Kauzeni, 1988).

Figure 4.2: Education level of respondents



Source: Field work (2015)

4.2 Information concerning Community Support on tree planting

4.2.1 Awareness about reforestation and its potential impact

The researcher had interest to know awareness about reforestation, specifically the impacts of reforestation. The result in Table 4.2 indicates that there is a growing awareness of the role which forest plays in natural ecological systems. The majority of respondents believe that reforestation is a source of fire wood (28%). Others said it attracts rain (11%); it is a source of income (9%); it controls soil erosion (12%); it provides conducive environment (11%); it is a source of timber (5%); building materials (4%); produces fruits (19%); and medicine (1%). The result has the same meaning as noted by Jagger and Pender (2000) that the importance of forest includes provision of biomass, watershed management, soil nutrient and water retention, fodder for livestock, construction materials and source of income. Also, Ward and Robinson (1990) observed that vegetation increases the infiltration capacity of soil by retarding surface water movement, reducing raindrop impact and improving soil

moisture. This implies that reforestation will result in a reduction of the level of soil erosion, sedimentation, flooding and the accompany consequences.

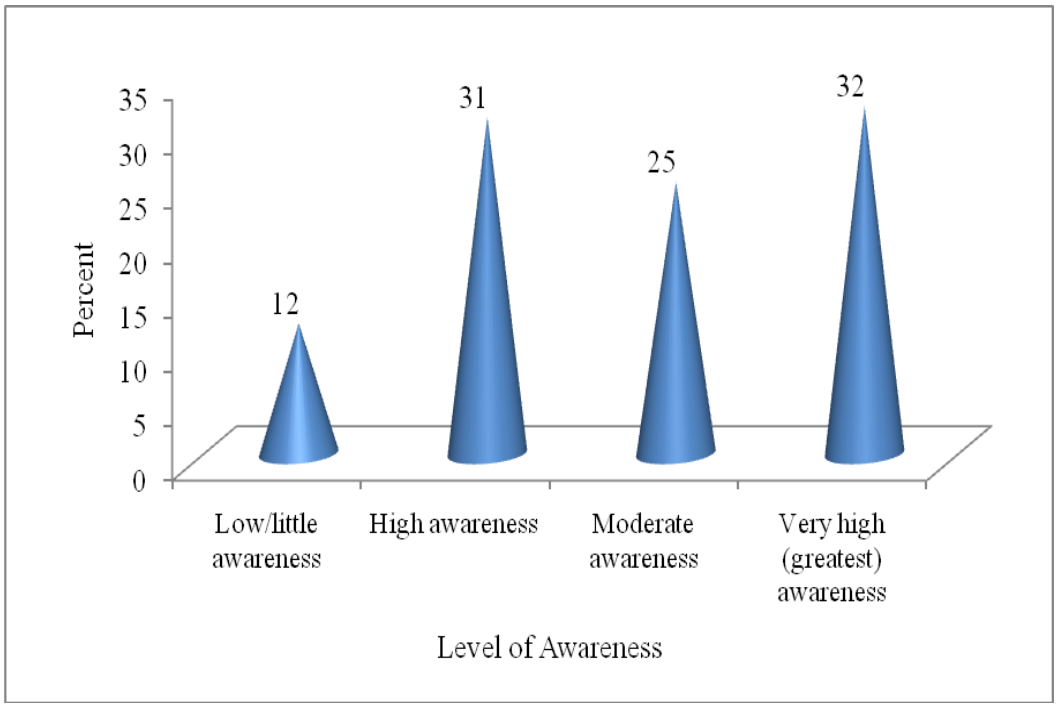
Table 4.2: Potential impacts of reforestation

Item	Frequency	Percent
Fire wood	21	28
Source of rain	8	11
Source of income	7	9
Control soil erosion	9	12
Provide conducive environment	8	11
Timber	4	5
Building materials	3	4
Fruits production	14	19
Medicine	1	1
Total	**75**	**100**

Source: Field work (2015)

On the other hand, the study intended to know the level of awareness in order to understand its contribution to reforestation. The result revealed that greatest percentage of people (32%) has very high awareness on impact of reforestation. Others have high awareness (31%), moderate (25%) and (12%) has low/little awareness. This is shown in Figure 4.3. It implies that it is easier to run reforestation campaign in the community due to awareness of the people. The result is comparable to UNESCO's findings (2006) that generally, awareness-raising is understood to be a constructive and potentially catalytic force that ultimately leads to positive changes in actions and behaviours. These changes may be sought by stakeholders in individuals, groups, organisations, communities or societies.

Figure 4.3: Level of awareness of respondents



Source: Field work (2015)

4.2.2 Sources of awareness

Moreover the study intended to identify which source of communication is commonly used to create awareness on reforestation to community. The result indicates that there were combinations of approaches used to create awareness on impact of reforestation in the community. Table 4.3 shows that the most common methods used to increase awareness of community on impact of reforestation were Radio/TV (42%). Others mentioned community meetings (27%), Seminar/ Workshop (25%), Community Forest Officer (4%) and School (2%). The result is linked with UNESCO's (2006) that an effective awareness-raising campaign strategy will employ a variety of different communication approaches and techniques to ensure that the central message is received and understood by a diverse audience. However, data shows that there were low contributions of Community Forest Officer and School on creation of awareness on reforestation issues.

Table 4.3: Sources of awareness for respondents

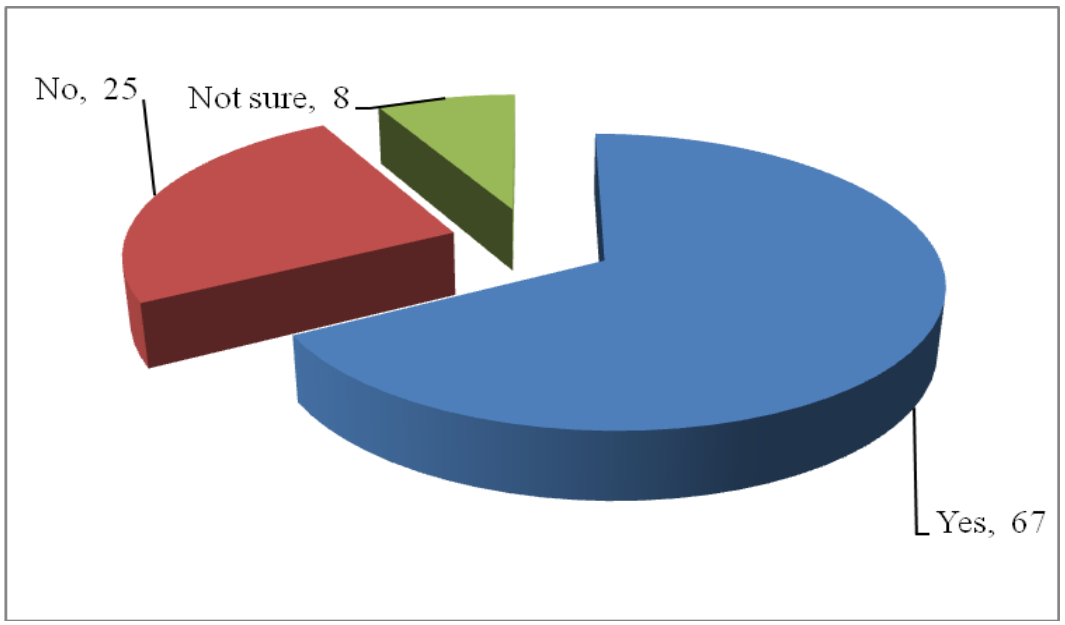
Description	Responses	
	N	Percent
Radio/TV	56	42
Forest Officer in community	5	4
Community meetings	36	27
Seminar/Workshop	33	25
School	3	2
Total	**133**	**100**

Source: Field work (2015)

4.2.3 Village meetings

The need to have village meeting is very important aspect to enable people to get several information concerning several issues related to their daily life. Village meeting also provide opportunities for community member to provide their views and contributions to presented issue. By involving people in the meeting, it enhances participation and hence sustainability of the project/program established/presented. From the study made, it was found that greatest percentage (67%) of respondents were aware that there were village meetings concerning tree planting undertaken. About (25%) said there was no tree planting meetings held in the village while (8%) were not sure whether a meeting was conducted or not. This implies that there is an opportunity to introduce the topic concerning reforestation in this community and positive result can be desired. The result is presented in Figure 4.4.

Figure 4.4: Presence of community meetings



Source: Field work (2015)

4.2.4 Participation of village meetings concerning tree planting

From the study made it was found that many respondents 46 (52%) had attended community meetings held in their areas while 42 (48%) had not attended the meetings. Moreover, respondents were asked to mention which organization is responsible for implementing the decision made during the meetings. The result also shows that the greatest percentage (33%) of respondents said that community itself is responsible to implement decision made in the meeting. This means that the community is an actor in the implementation of their programmes.

It is believed that with participation people become actors instead of being beneficiaries. They can influence and share control over development initiatives and the decisions and resources which affect them (Ghai, 1988). Moreover others respondents replied that the government implement decision made through Sheha (26%); (20%) Organization responsible for conducting the meetings; (18%) they don't know who implement the decision and the rest (4%) said Forest Officer (see Table 4.4).

Table 4.4: Responsible body/unit for implementation of decision

Description	Frequency	Percent
Sheha	21	26
I don't know	14	18
Forest Officer	3	4
Organization responsible for conducting the meeting	16	20
Community themselves	26	33
Total	**80**	**100**

Source: Field work (2015)

4.2.5 Reasons of respondents for not attending the Community Meetings Concerning Tree Planting

Respondents were asked to indicate the reasons for not attending Community meetings concerning tree planting. Their answers are shown in Table 4.5. Some of the reasons given by them were lack of information concerning the meetings (47%). Also some respondents (25%) had never been involved in the meetings. About (19%) of respondents did not attend the meetings because there were biases in selecting members and the rest (8%) did not attend because the meetings were not their priority. The results mean that there is poor performance in implementation of the reforestation interventions as noted by Hulton, (1997); lack of community participation is contributing factor to failure of many development projects/programs.

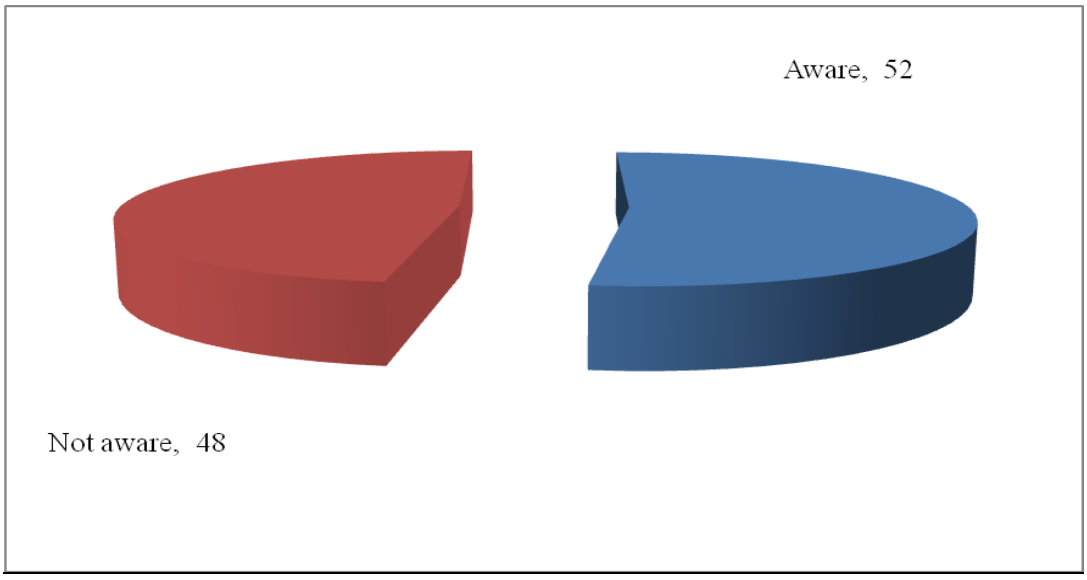
Table 4.5: Reason for not participating in community meetings

Description	Frequency	Percent
I have never involved	9	25
I did not get information	17	47
There is biasness in selecting audience	7	19
It is not my priority	3	8
Total	**36**	**100**

Source: Field work (2015)

Respondents were asked also to indicate whether they were aware about tree planting programmes or not. The findings indicated that tree planting programmes were undertaken in the study area. The majority of (52%) respondents said they were aware of tree planting programmes. The rest (48%) replied that they were not aware of those programmes. This is shown in Figure 4.5 below. These data indicates that there was contradiction between the respondents; some of them knew that the campaigns were conducted while others didn't know. This means that there were communication breakdowns in the study area on awareness creation about those campaigns. It should be noted that an effective awareness-raising campaign strategy will employ a variety of different communication approaches and techniques to ensure that the central message is received and understood by a various audience (UNESCO, 2006).

Figure 4.5: Awareness of respondents on tree planting programmes



Source: Field work (2015)

4.2.6 Support Provided to Community

The study intended to find out if supports were provided to the community concerning tree planting programme. The study found out that the majority of the respondents (63%) were supported by being provided with tree seedlings; (32%)

with techniques on tree planting; and (5%) with financial support. This is shown in Table 4.6. To provide support at the local level is very important, it can increase the survival of planted trees. It is noted by Kauzeni (1998) that supporting and working with community can help to ensure the success and persistence of tree-planting projects. Building local capacity to select, grow, plant and manage trees provides employment and uses local forest knowledge.

Table 4.6: Support provided to community

Support Provided	Responses	
	N	Percent
Financial	3	5
Technical	18	32
Tree seedling	35	63
Total	**56**	**100**

Source: Field work (2015)

Moreover the findings disclose that the community supported very little (5%) financially. This implies that the community will no able to fulfil its needs in tree planting and the rate of reforestation will still be low. Due to shortage of fund, people may not able to buy tree seedlings and inputs. The same observation found by Silima (2010) that financial capacity of the department responsible to the forest to fulfill its mandate is not there. Due to inadequate government budget allocation to and sharp decline in external funding to sustain forestry development activities, the human resources development as well as service delivery to the general public has been incapacitated. There is a gross uncertainty of funding flows for routine forest operations let alone for development activities. This inadequacy and uncertainty of funds has impacted negatively on forestry operations ranging from training, plantation management, seedling production, extension services, research and monitoring activities as well as infrastructural development necessary for sustainable management of forestry.

4.2.7 Opinion of Respondents on Support Provided to Community

Respondents were asked to provide their opinion on the areas which they prefer to be supported. The findings in Table 4.7 indicate that the majority (46%) prefer to be supported by being given more knowledge on tree planting. Others (29%) said they prefer being given tree seedling; still others (13%) preferred more community participation; others (8%) more land for tree planting; and the rest (4%) more financial support to buy inputs. It should be noted that there is lack of technical knowledge about growing, planting, and maintaining trees.

Table 4.7: Opinion of respondents on support to community

Opinion	Responses	
	N	Percent
Community participation	3	13
More financial support to buy inputs	1	4
More seeds should be provided	7	29
More knowledge on tree planting	11	46
Land for tree planting	2	8
Total	**24**	**100**

Source: Field work (2015)

4.3 Socio-economic Activities of Respondents

The need to know socio-economic aspects affecting tree planting and availability of tree seedling in the community was a very crucial issue in this study. These aspects would provide information on how people perform their day to day activities and how they interact with forest around their area.

4.3.1 Economic Activities of Respondents

The study examined the economic activities undertaken by community in relation to reforestation. Respondents were asked to mention the activities they daily performed

to fulfil their needs. Table 4.8 shows that the greatest percentage (38%) of respondents was engaged in farming activities. Others (22%) engaged in fishing; in business (12%); those not engaged in economic activities because still students (11%); those engaged in both farming and fishing (9%); in farming and business (4%) and in carpentry (1%). The result implies that people in the study area still depends farming activities as their major economic activity. (RGoZ, 1999) stipulated that it should promote the development of sustainable forest-related activities such as small-scale nurseries, forest-based handicraft, identification and harvesting of potentially valuable non-wood forest product, and beekeeping as means to raise village's income.

Table 4.8: Socio-economic activities of respondents

Economic activities	Frequency	Percent
Fishing	17	22
Farming	29	38
Business	9	12
Farming and Business	3	4
Carpentry	1	1
Teacher	2	3
Student	8	11
Farming and Fishing	7	9
Total	**76**	**100**

Source: Field work (2015)

Moreover, too much dependence on farming activities as a major source of economic may lead to high dependence of natural resources in daily. It is noted that the excessive dependence on wood fuel has resulted into degradation of environment and increased wood fuel scarcity in many regions in the country (Annon, 2001). Due to economic distortions, the majority of Tanzanians cannot afford alternative energy sources such as electricity, petroleum products, solar systems and biogas plants. This implies that biomass fuels will continue to be the

major sources of energy now and in the future for the majority. On the other hand, this will mean more pressure on the already dwindling natural forest environment.

4.3.2 Land Ownership

The study revealed that only 78% of respondents own the land and the rest (22%) do not own land. On the other hand, respondents who own the land, their land was a very small farm. Ninety percent of them had less than one acre; and only 10% had 1-2 acres. Respondents who possess the land were asked to indicate whether the land was adequate or not. This means that farmers have not enough land for cultivating the forest. The results linked with Fadhilas, (1994) who noted that the individual households cultivated from less than one to more than 3 acres, in this distribution 60% of the farmers cultivate less than to equal to one acre, and 37% of the farmers cultivate between 2 to 3 acres, while only 3% cultivate more than 3 acres.

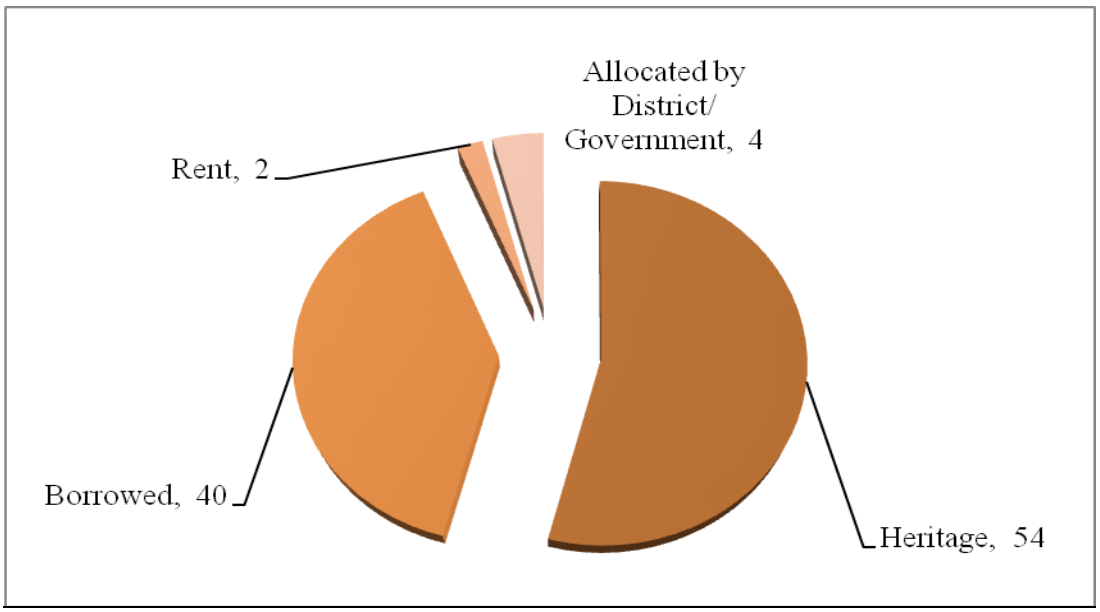
In relation to tree planting, the result indicated that 69% of respondents, who owned land, said that their land was not adequate. Thirty-one percent said the land was enough for planting tree. The result means that community will grow small number of tree in their farms. It is expected that productivity will increase in households as the area of land cultivated increases. Similar observation was reported in Zimbabwe, Philippines and Ethiopia where land size of household was positively correlated with number of trees planted by individual household (Githiomi *et al.,* (2012).

4.3.3 Land Tenure Status

Land tenure status of the respondents would determine the size of farm to be cultivated by the respondents. Figure 4.6 shows that 54% of respondents owned the land through inheritance while 40% borrowed from their neighbours; 4% obtained the land through allocation by District/Government; and 2% through rent. This means that the respondents have no decision on what to grow in their farms. Also it may restrict respondents to grow trees. The result is supported by (RGoZ, 1999)

that the Government should give support to tree-growing activities on agricultural land by improving the security of tenure of farmers through efficient implementation of the land adjudication process.

Figure 4.6: Land tenure status of respondents



Source: Field work (2015)

Additionally the researcher found that, many respondents (79%) employed the family members as their major source of farm labour. Neighbours labour was 10%, and hired labour was also 10%. On the other hand, the research revealed that respondents own houses but they did not plant trees around them. When the researcher asked them why they did not plant trees around their houses, the majority (67%) responded that it was because the area they live in was not their own land, while others (37%) said that their land was not big enough for tree planting.

4.4 Information concerning availability of seedlings in the community

4.4.1 Availability of Tree Seedlings

Table 4.9 shows that a greater percentage of respondents (36%) obtained tree seedlings by collecting in different areas. Other sources were tree nursery 29% of

respondents; 18 (22%) of the respondents obtained them from businessmen; 5% of the respondents got them from Government Institution; 5% of the respondents said they got them from NGOs; and the rest 2% of the respondents produced them by themselves. This means that it is difficult for the community to get tree seedlings from their own sources.

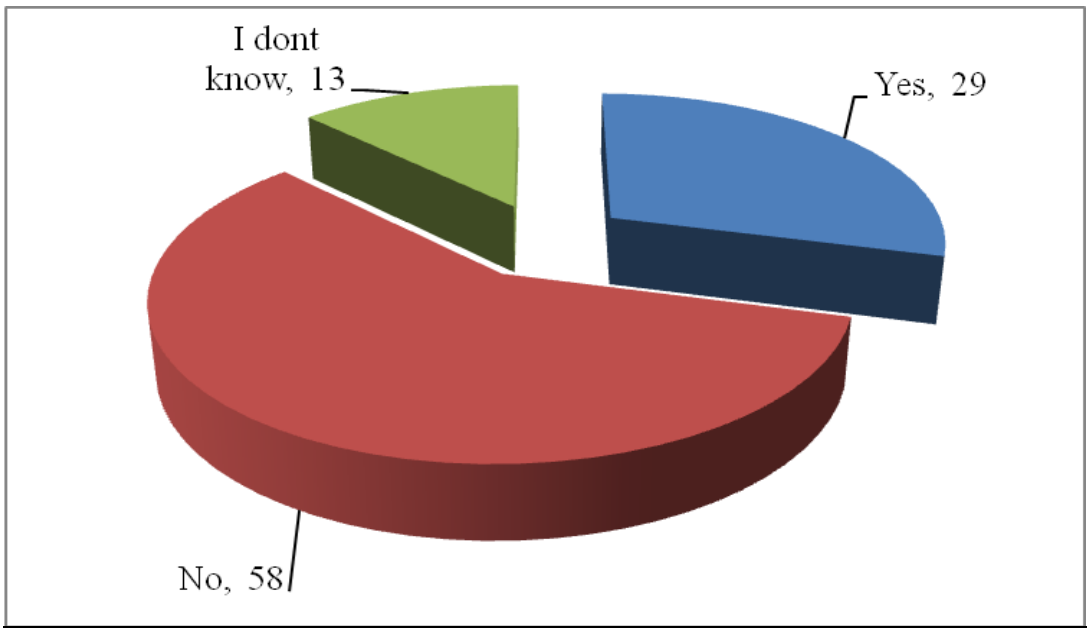
Table 4.9: Availability of tree seedlings in the community

Description	Responses	
	N	Percent
Businessmen	18	22
Tree nursery	24	29
Government Institution	5	6
Collection	30	36
Self production	2	2
NGOs	4	5
Total	**83**	**100**

Source: Field work (2015)

Figure 4.7 shows that the greater percentage (58%) of respondents said it is not affordable; while (29%) of respondents said it is affordable while (13%) of respondents said they don't know. The result means that it is difficult to increase number of tree in the study areas because the price of seedlings was high. It is observed that maintaining or enhancing species diversity through reforestation practices can be accomplished by increasing: a) the number of species; and b) the genetic diversity of trees used to establish harvested areas within cut blocks and across the landscape (Kukkonen M., 2013).

Figure 4.7: Affordability of price for tree seedlings

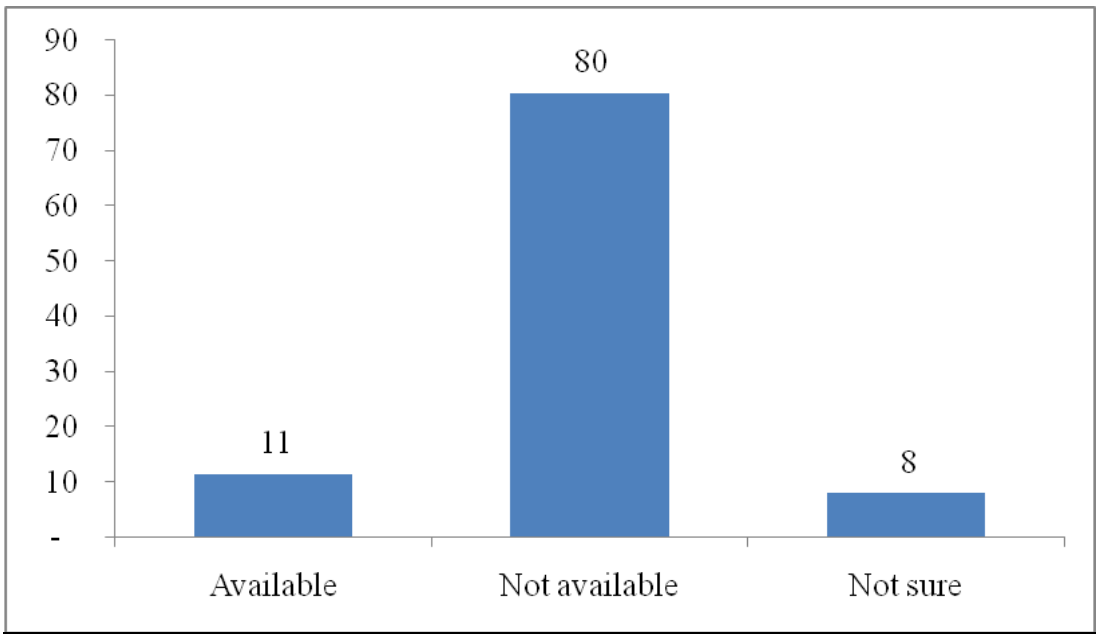


Source: Field Work, (2015)

4.4.2 Community Forest Officer

Availability of Community Forest Officer is very important in production of tree seedlings and reforestation process in general. Respondents were asked to say whether there was Community Forest Officer in the study area or not. The result shown in Figure 4.8 indicates that there was no Community Forest Community Officer. The majority of the respondents (80%) said there was no Forest Community Officer available in the study area; (11%) of respondents said the Forest Officer was available and the rest (8%) of respondents were not sure whether the officer was available or not. This result means that it is not easy for community to get tree seedlings because they have not access to extension services. The result is linked with Kauzeni, (1988) that before adopting any farming innovation there must be adequate and reliable local sources of farm information from extension workers or research centres concerning agricultural production.

Figure 4.8: Availability of Community Forest Officer



Source: Field work (2015)

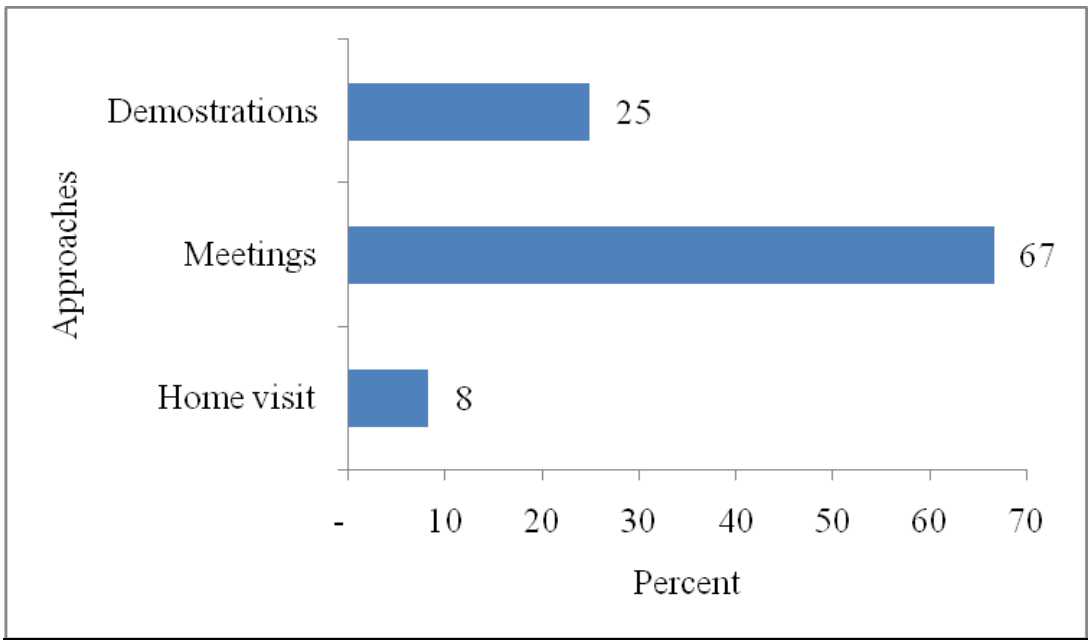
4.4.3 Approaches of knowledge sharing

The result of the study shown in Figure 4.9 indicates that there are several approaches used to provide knowledge to community concerning tree planting. The majority of the respondents (67%) said that the most common approach used was community meetings. (25%) said they got knowledge through demonstration, while (8%) said it was through home visit. By using these community meetings and demonstration, it is easier to induce social change by involving groups of people then attempting it through individual contact (home visit); because it enable wider dissemination to a number of farmers in one occasion (Kauzeni, 1988).

However it was found that there was combination approaches used to provide knowledge to the community because there is no single communication method is best in all cases (MAC, 1997). Also, the result has the same meaning as argued by Van de Ban and Hawkins (1982) that the communication methods that extension agents Extension Officers commonly use to help farmers form opinions and make

decisions can be classified into three groups. These are personal/individual methods, group methods and mass media methods.

Figure 4.9: Approaches of knowledge sharing

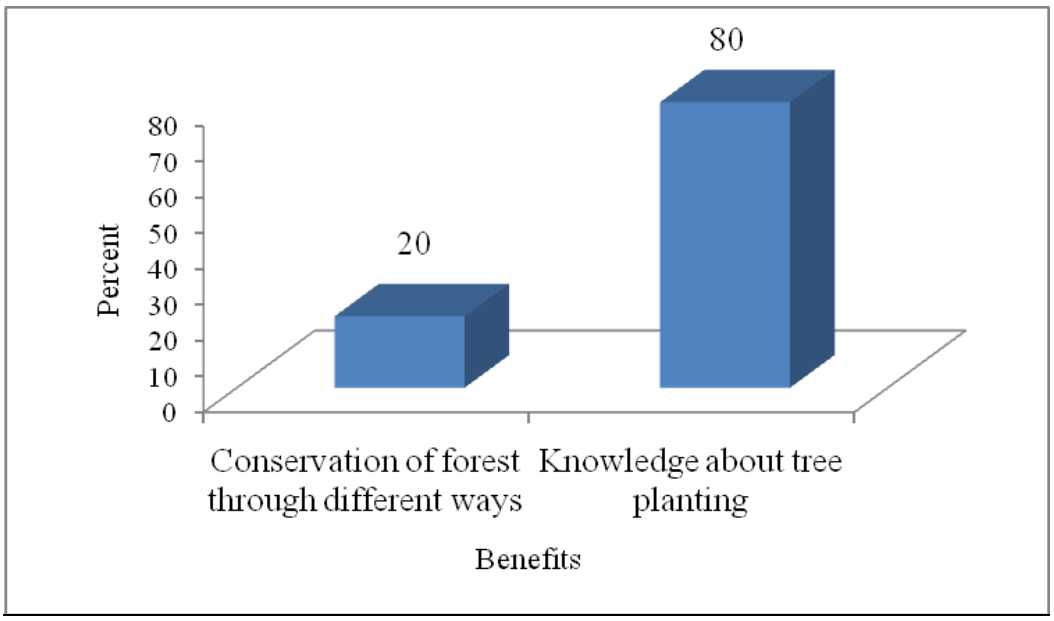


Source: Field work (2015)

4.4.4 Availability of Research Centre

The research revealed as shown as shown in Figure 4.10 that many respondents (81%) were not aware that there was research centre; (11%) were aware; and (8%) were not sure. Also the result of the study shows that the greater percentage of respondents (80%) got knowledge and benefited about tree planting from research centre while (20%) got awareness on conservation of forest through different ways.

Figure 4.10: Benefits of research centre



Source: Field work (2015)

The finding means that people were not benefit from the research centre. This may lead them to have low accessibility of information provided to research centre. There is a need for farmers to adopt farming technologies, by adopting technologies to resolve their problems. Before adopting any farming innovation there must be adequate and reliable information from extension workers or research centres concerning agricultural production (Kauzeni, 1988). Moreover there were others who know the presence of research centre. Through the centre they got benefits items of knowledge on tree planting and awareness on conservation of forest through different ways.

4.5 Information on Community Perceptions on Tree Planting

Table 4.10: Community perceptions on tree planting

Item	Strongly agree	Agree	No option	Disagree	Strongly disagree
Tree planting needs much effort in terms of labour and time.	7	50	14	6	23
Tree planting need large piece of land.	6	53	13	4	23
The yield obtained through tree planting takes long time.	2	52	24	8	13
Prices of the recommended inputs are affordable.	33	9	10	14	33
Rainfall uncertainties and hazards affect tree planting.	4	51	27	14	3
Community will benefit more by planting trees.	0	68	23	1	8
I would rather plant any tree species.	8	22	22	20	28

Source, Field work (2015)

With regards to level of perception of tree planting, liker-type items were used to obtain information from the farmers, the response of farmers were expressed to realize whether "agree" or "disagree" based on the statement given. As shown in Table 4.10 above, the respondents agreed with tree planting needs much efforts in terms of labour and time (50%); tree planting need large piece of land (53%); the yield obtained through tree planting takes long time (52%); rainfall uncertainties and hazards affect tree planting (51%) and community will benefit more by planting trees (68%). On the other hand, some respondents disagreed with prices of the recommended inputs being affordable (14%); and others would rather plant any tree species (22%).

CHAPTER FIVE

SUMMARY CONCLUSION AND POLICY IMPLICATIONS

5.1 Introduction

This chapter presents summary of the study, conclusion, policy implications and areas for further study.

5.2 Summary

5.2.1 Intention of study

The study sought to assess major reforestation challenges in North 'A' district – Zanzibar: the case of Mkokotoni and Jongowe Shehias. Specifically the study intended to examine the extent of community support on tree planting; to investigate social economic factors which affect tree planting in the community; to examine availability of seedling in the community; and to determine the perceptions of community about tree planting program.

5.2.2 Research questions

To achieve the desired results, the research planned to answer the following research questions: (i) to what extent is community supported in tree planting? (ii) what are the social-economic aspects that affect tree planting in the community? (iii) to what extent are tree seedlings in the community available? and (iv) what are the perceptions of community about tree planting program?

5.2.3 Findings

(i) On community support on tree planting

The study revealed that community were aware of impact reforestation. They mentioned more than one impact but still they were not replanting as many trees as possible. The process of awareness creation was performed through different approaches which helped people to become aware of the impact of reforestation but the contribution of the Community Forest Officer was low. This may lead to

poor skills and knowledge in the community on how to produce tree seedlings and grow plants.

It was observed that there were several meetings held in the study areas which made people access information concerning their lives and tree planting. Because people were attending the meetings, there is hope to introduce new ideas to community and have positive result.

The study findings show that the people who were supported in different areas were more than supported. The areas in which the community was supported include tree seedlings, techniques, and financial. However these were different from the areas of preference. For example some preferred more knowledge on tree planting; tree seedling; more community participation; more land for tree planting; and more financial support to buy inputs.

(ii) On socio-economic activities

Findings show that the many community members were engaged in farming activities. However some of them were engaged in other economic activities.

It was also found that many people own land but it was very small land. Most of them own below one acre, which is not enough to plant many trees.

It is noted that people in the study area have the land but it was owned through inheritance. This type of land tenure to some extent inhibits them from deciding which crop to actually produce. This means that individual family member cannot have mandate to decide the uses of their land.

(iii) On availability of seedling in the community

In the study area it was found that it was difficult to get tree seedlings. The most common reason was poor knowledge on preparation of tree nursery. Hence the majority of them depend on collecting tree seedlings.

However there were others who depended on tree nurseries from business men who sold them at high prices.

(iv) Community perceptions on tree planting

Findings show that to a large extent people have positive perceptions on tree planting. They agreed with many statements and disagree with few of them.

5.3 Conclusions

Because some people were still not aware of tree planting campaigns, the study concludes that the tree planting campaigns will not be successful, to the extent that people may not participate in those campaigns.

From the findings it can be concluded that the areas where community needs support were not covered even though support was given. According to the National Forest Policy for Zanzibar (1999), the Revolutionary Government committed to provide support on growing multipurpose trees.

The efforts made by government to promote sustainable forest-related community activities were not effectively implemented because many people were still engaged in agricultural activities instead of other activities to reduce excessive use of land.

The size of land owned by community in the study area was small. Also, most common tenure system was inheritance. That means people have not mandate to decide the permanent uses of land. This may not allow them to plant as many trees as possible in their land.

It was difficult to obtain tree seedlings for the community because people have poor knowledge and skills on preparation of tree nursery. Also, community member were not able to buy many seeds due to high price of those seedlings. At the same time absence of tree nursery in the study area caused difficulties in obtaining tree seedlings.

From the study made it can be concluded that people have positive perception on tree planting and are ready to plant trees in their areas. Because they show positive response for many questions they were asked.

5.4 Policy Implications

The findings show many challenges face community and prevent the reforestation process to be more effective. In this regard there is need to have policy interventions that will enable community to do the following: to access enough land for tree planting; to have adequate support in their area of specification; to obtain relevant information concerning tree planting; to have laws and regulations that enable them to access land for forest; and to have knowledge and skills on production of tree seedlings and forest in general.

To achieve the above, the following should be done:-
First, the government in collaboration with other stakeholders should make special efforts to mobilize the community to participate in tree planting programmes.

Second, it should review the existing land tenure system to enable many farmers to have enough land for tree growing.

Third, the government should train and motivate new forest extension officers to perform their duties accordingly.

Fourth, the government and private sector should establish as many tree nurseries as possible and to train farmers on how to prepare tree nursery and to make sure that tree seedling are easily available.

Fifth, the government should emphasise alternative sources of energy in the community (for example use of gasoline for cooking) to reduce forest consumption rate.

5.5 Areas for further study

This study based on assessing implementation of the National Forest Policy for Zanzibar of 1999 on major reforestation challenges in North ‘A’ District in Zanzibar. Since this study covered only two Shehias with the District is large, there is the room to conduct the same research in other areas at the District. Furthermore, findings showed that in some areas man were not engaged much on agricultural production than women, so other researcher may look on contribution of men on reforestation in North ‘A’ District and Zanzibar at large.

References

Anon (2001). Hifab International (2000). Tanzania Energy Study. Vol. #1. Sida Dar es Salaam-Tanzania.

Basha, A. U. (1999). *A Case Study in the Woodcutting Industry of Two Communities Around Jozani Conservation Area, Zanzibar*. ETFRN Publication Series.

Basnayake B., Gunaratne L. (2002). *Estimation of Technical Efficiency and It's Determinants in the Tea Small Holding Sector*. SriLankan J. Agric. Econ.

Berman, P. (1978). *The study of macro- and micro-implementation.* Public Policy,26(2).

Bhattacherjee A. (2012). *Social Science Research:* Principles, Methods, and Practices. University of South Florida.

Brown, K. and Adger, N. (1990). *Forests for international offsets:* Economic and political issues of carbon sequestration. Oxford University Press - Oxford.

Bruce, N. P., Padilla, R.G and Albalak, R. (2000). Indoor air pollution in developing countries: a major environmental and public health challenges. *Bulletin of the World health Organization*, 78(9): 1078-1092.

Care (2003). The Wood Fuel Consumption Survey in Zanzibar.

Cohen, J. and N. Uphoff (1977). Rural Development Participation: Concepts and Measures for Project Design, Implementation and Evaluation, Ithaka, Cornel University.

Commission for Natural Resources and Ministry of Foreign Affairs - Finland (1997). The Zanzibar Long Term Forestry Plan 1997 - 2006.

DCCFF (2007), Draft Report: Long Term Forest Management Plan: Department of Commercial Crops, Fruits and Forestry- Zanzibar.

DoE (1992). The National Environmental Policy for Zanzibar. Commission for Lands and Environment - Zanzibar.

Donald, K. and Delno L. A. (2006). *Proposal and Thesis Writing: An Introduction*. Paulines Publications Africa.

Ellfson, P. V., Cheng, A.S. and Moulton, R. J. (1997): State government actions to direct the use of forest ecosystems. Society and Natural Resources, 10, 195-209.

Fadhila H. A. (1994). Rice production in Zanzibar FAO Technical Report No. 4.

FAO (2007). *State of the world's forest,* 2007, FAO Rome, 144 pp.

FAO (2012). *State of the World's Forests:* Food and agriculture organization Of the United Nations. Rome.

FAO, (2010). Global Forest Resources Assessment. Main report; FAO Forest Paper 163. Rome –Italy.

Foley, G. and Barnard, G. (1984). Farm and Community Forestry. Energy Information Program – Technical Report No. 3. Earthscan, IIED, London.

Foley, G. and Barnard, G. (1984). Farm and Community Forestry. Energy Information Program – Technical Report No. 3. Earthscan, IIED, London.

Freire, P. (1972). *Pedagogy of the Oppressed.* New York: Herder and Herder.

Ghai, D. (1988) 'Participatory Development: Some Perspectives from Grassroots Experiences'. *Discussion Paper No. 5.* Geneva: UNRISD.

Githiomi J. K, Mugendi D. N. and Kung'u J. B. (2012). *Household tree planting and its related constraints in meeting woodfuel production in Kiambu, Thika and Maragwa Districts of Central Kenya:* Forest Products Research Centre, Kenya Forestry Research Institute- Nairobi, Kenya.

Guijt, I. and A. Cornwall (1995) 'Critical reflections on the practice of PRA'. *PLA Notes 24*, pp. 1- 6.

Hardin G. (1968). *Introduction to sustainable development.* "The tragedy of the Commons" York University, Toronto, Canada.

Isabel Vogel (2012). Review of the use of 'Theory of Change' in international development: Department of International Development.

Jagger P, Pender J (2000). The Role of Trees for Sustainable Management of Less Favoured Lands: The Case of Eucalyptus in Ethiopia. EPTD Discussion Paper No 65.IFPRI Washington. D.C.

Kauzeni A.S. (1988). Rural development alternatives and the role of local-level development strategies: Institution of Resource Assessment in Regional Development Dialogue (UNCRD), V.9 (2) P. 105-138 Dar-es-Salaam-Tanzania.

Kombo et al (2002). Wood Fuel Consumption Survey For The Zanzibar Islands; *Technical Paper Number 134.*

Kosonen, M. (1991). Incentives for Fuel wood Growing by Tobacco Farmers in Tanzania.

Kothari, C. R (2004), Research Methodology: Methods and Techniques. New Age International (P) Ltd, Publishers.

Kukkonen M. (2013). Forest cover and its change in Unguja Island, Zanzibar. Geography thesis; University of Turku, Department of Geography and Geology. Zanzibar, Tanzania.

Lambin, E. (1997). Modelling and monitoring land-cover change process in tropical regions. Progress in Physical Geography.

Leach, G. (1987). Energy and Urban Poor. IDS bulletin, Vol. 18 No.1. Sussex. Pp. 31-38.

Leach, G. and Mearns, R. (1988). Bio-energy Issues and Options for Africa. A Report to the Royal Norwegian Ministry of Development Cooperation. (Draft). IIED, London. 214 p.

Masoud, R. S (1990) Fuel wood demand in Zanzibar Town and the implication for Forestry Policy. MSc. Thesis submitted to the Agricultural University of Norway.

Ndunguru, C. P (2007), Lectures on Research Methodology for Social Science. Research Information and Publication Department, Mzumbe University.

Neil Brown, (1992): What Role for Forest Policies? /Which Forest Policies to Analyse? CIFOR.

O'Toole, L. J. (2000). *Research on policy implementation*: Assessment and prospects.

Ottoson, J. M., & Green, L. W. (1987). *Reconciling concept and context*: Theory of implementation. *Health Education and Promotion.*

Owen M. (1993). Zanzibar Town Forest Product Survey. ZFDP Technical Paper No. 13. ZFDP phase ii. [Edited by Chris Davey]. Commission of Natural resources, Forestry Sub-commission-Zanzibar; FINNIDA and Finnish Forest and Park Service. Vantaa, Finland.

Pearce, D. (1991). *An economic approach to saving the tropical forests.* In Helm, D. (eds.) Economic Policy towards the Environment. Blackwell - Oxford.

Pease and Stifel, (1979). Participatory Approaches to rural development and rural poverty. Institute of Social Studies, The Hague, Nether lands.

Persson, R. (1994). World Forest Resources. Lecture hand out from a lecture held at the course Management of Forests and Wood Industries, in Garpenberg August 25, 1986. Swedish University of Agriculture Sciences, International Rural Development Centre.

Pimbert, M. (2004). 'Natural resources, people and participation'. *Participatory Learning and Action* 50, pp. 131-139.

Pretty, J., Staples, L. H. and Tesoriero F. (1995). A Trainer's Guide for Participatory Learning and Action.

Rai, R. K. (1998). 'Monitoring and evaluating in the Nepal-UK community forestry project'. *PLA Notes*, Issue 31, pp.37–43.

Reddy, V. R., M. G. Reddy, S. Galab, J. Soussan, and O. Spingate-Baginski (2004) 'Participatory watershed development in India: can it sustain rural livelihoods' *Development and Change*, Vol. 35, Nr. 2, pp.297-326.

Review mission (1991). A report of Review Mission; First Draft. Forestry Sub commission of Zanzibar/ZFDP and FINNIDA. Zanzibar.

Revolutionary Government of Zanzibar (1999). National Forestry Policy for Zanzibar; Ministry of Agriculture Livestock and National Resources.

Revolutionary Government of Zanzibar (2007). Zanzibar Strategy for Growth and Reduction of Poverty.

Silima P. A, (2010). The Zanzibar National Forest Policy Analysis: Sustainable Management of Land and Environment II, (SMOLE II) – Zanzibar.

UN (1992) *Sustainable Development: AGENDA 21*. United Nations Conference on Environment & Development Rio de Janerio, Brazil.

UNESCO, (2006). *Principles of awareness-raising:* Information literacy, a case study. Bangkok.

United Republic of Tanzania (1998). *National Forest Policy:* Dar es Salaam – Tanzania.

Van de Ban and Hawkins, (1982). Process and implications of knowledge transmission in Australian Agricultural extension/School of Management, Hawkesbury agricultural collage.

Ward RG, Robinson M (1990). Principle of Hydrology McGraw Hill Book Co. New York.

ZFDP (1993). Draft project proposal; Commission of Natural Resources Sub-commission forestry Zanzibar and. Helsinki, Finland.

Appendices

Appendix 1: *DODOSO KWA WANAJAMII*

Mpendwa mshiriki,

Napenda kukujulisha kwamba dodoso hili limeandaliwa kwa dhumuni la kukusanya taarifa zinazohusiana na utafiti juu ya utekelezaji wa Sera ya Taifa ya Misitu ya Zanzibar (1999)**:** katika eneo la Shehia za Mkokotoni na Jongowe Wilaya ya Kaskazini "A". utafiti huu unafanyika kwa ajili ya kukamilisha mafunzo ya Shahada ya Pili ya Maandiko ya Sera katika chuo Kikuu cha Mzumbe Morogoro-Tanzania.

- Nakuomba unisaidie kujibu maswali yafuatayo
- Weka majibu kwa mujibu wa suali husika linavyouliza

A. Taarifa binafsi

1. Jina la Shehia……

2. Jinsia?

1.	ME	
2.	KE	

3. Umri?

1.	Chini ya miaka 20	
2.	Miaka 20 - 30	
3.	Miaka 31 - 40	
4.	Miaka 41 – 50	
5.	Zaidi ya 51	

4. Hali ya ndoa:

1.	Sijaoa/ olewa	
2.	Nimeoa/olewa	
3.	Mjane	

5. Kiwango cha elimu?

1.	Elimu isio rasmi	
2.	Elimu ya msingi	
3.	Elimu ya sekondari	
4.	Elimu ya chuo kikuu	
5.	Nyengine	

B. Tarifa kuhusu huduma za elimu ya upandaji wa misitu

6. Je unaulewa gani kuhusu upandaji wa misitu na faida zake?

……

……

……

……

…….....**.....**

7. Ni wapi umepata uelewa huo?
   1. Radio/TV……2. Ofisa Misitu ngazi ya jamii…….3. Mikutano ya jamii…….4. Semi/ Makongamano……
8. Je umewahi kuhudhuria semina yoyote kuhusu upandaji wa miti?

1.	Ndiyo	
2.	Hapana	

9. Je kuna mikutano yoyote ya kijiji inayohusiana na upandaji wa miti?

1.	Ndiyo	
2.	Hapana	
3.	Sijui	

10. Kama jibu ni ndio, ni mikutano mipangapi inafanyika kwa mwaka?

1.	Mmoja	
2.	Miwili	
3.	Zaidi ya mitatu	

11. Ni nani anaendesha mikutano hiyo?

1.	Maofisa wa Serikali	
2.	Jumuiya zisizo za Serikali	
3.	Nyengine (taja)……..	

12. Je umewahi kuhudhuria mkutano wowote wa kijiji kuhusu upandaji wa miti?

1.	Ndiyo	
2.	Hapana	

13. Kama jibu ni hapana, kwa nini?

……

……

14. Nani anawajibika na utekelezaji wa maamuzi ya mkutano?

……..……

……..

15. Je umewahi kushiriki kwenye programu yoyote juu upandaji wa miti?

1.	Ndiyo	
2.	Hapana	
3.	Sijui	

16. Je umewahi kupata msaada wowote kuhusu upandaji wa miti?

1.	Ndiyo	
2.	Hapana	

17. Kama jibu ni ndio, ni msaada gani umepata?

1.	Fedha	
2.	Utaalamu	
3.	Vifaa	
4.	Miche	
5.	Msaada mwengine (taja).....	

18. Je umeridhika na msaada huo?

1.	Ndiyo	
2.	Hapana	
3.	Sijui	

19. Kama jibu hapana, nini kifanyike ili uridhike?

……

……

……

……

C) Taarifa za kiuchumi na kijamii kuhusu upandaji wa miti katika jamii

20. Ni shughuli gani za kiuchumi unafanya?

……

21. Je unamiliki ardhi?

1.	Ndiyo	
2.	Hapana	

22. Kama jibu ni ndiyo, ni ya ukubwa gani?

1.	Chini ya ekari 1	
2.	Ekari 1-2	
3.	Ekari 2-5	
4.	Zaidi ya ekari 5	

23. Ni kwa njia ipi umemiliki ardhi hiyo?

1.	Urithi	
2.	Kuazima	
3.	Kukodi	
4.	Kupewa na Idara ya Kilimo Wilaya/Serikali	

24. Je unafikiri eneo hilo linatosheleza kwa upandaji wa miti?

1.	Ndiyo	
2.	Hapana	

25. Ni wapi unapata vibarua wako?

1.	Familia	
2.	Majirani	
3.	Vibarua wa kukodi	
4.	Nyengine (Taja) ……	

26. Kipato chako kwa mwezi ni kiasi gani?

1.	< 20,000/=	
2.	20,000/= to 30,000/=	
3.	30,000/= to 50,000/=	
4.	50,000/= to 100,000/=	
5.	Zaidi ya 100,000/=	

27. Je unamiliki nyumba?

1.	Ndiyo	
2.	Hapana	

28. Je umepanda mti kwenye nyumba yako?

1.	Ndiyo	
2.	Hapana	

29. Kama jibu ni hapana, toa sababu?

1.	Hakuna eneo la kutosha	
2.	Eneo niliopo sio langu	
3.	Sina utaalamu	
4.	Sababu nyengine (itaje)...	

D. Taarifa kuhusu upatikanaji wa mbege za miti

30. Je kuna kitalu (tree nursery) katika kijiji chako?

1.	Ndiyo	
2.	Hapana	
3.	Sijui	

31. Je unajua namna ya kuandaa kitalu cha miti?

1.	Ndiyo	
2.	Hapana	

32. Ni kipi chanzo chako cha mbegu za miti?

1.	Wafanya biashara	
2.	Kitaluni	
3.	Taasisi za Serikali	
4.	Sehemu nyengine (taja) …	

33. Vipi unapata mbegu za miti?

1.	Malipo	
2.	Bure	
3.	Utaratibu mwengine utaje.....	

34. Kama ni kwa malipo, ni bei gani zinauzwa?

1.	200 – 400/=	
2.	500 – 600/=	
3.	700-800/=	
4.	900-1,000/=	

35. Je bei hiyo inaridhisha?

1.	Ndiyo	
2.	Hapana	
3.	Sijui	

36. Je kuna Ofisa Misitu ngazi ya jamii katika kijiji chako?

1.	Ndiyo	
2.	Hapana	
3.	Sijui	

37. Kama jibu ni ndio, ni vipi unapata elimu juu ya uwezeshaji katika kupanda miti?

1.	Kutembelewa nyumbani	
2.	Mikutano	
3.	Shamba mafunzo	
4.	Nyengine (taja) …..	

38. Je kuna kituo cha utafiti katika eneo lako?

1.	Ndiyo	
2.	Hapana	
3.	Sijui	

39. Kama jibu ni ndiyo, vipi unafaidika na na kituo hicho?

……

……

……

……

E) Taarifa kuhusu mtazamo wa jamii juu ya mpango wa upandaji miti

40. Ningependa kujua mtazamo wako juu ya mambo yafuatayo kuhusiana na upandaji wa miti. Naomba weka 4: kama "Unakubaliana nayo kabisa, 3: Unakubaliana nayo, 2: Huna maoni, 1: Hukubalianai nayo, na 0: Hukubaliani nayo kabisa".

Maelezo	**4: Unakubaliana nayo kabisa**	**3: Unakubaliana nayo**	**2: Huna maoni**	**1: Hukubali anai nayo**	**0: Hukubali ani nayo kabisa**
Kupanda miti kunahijitaji nguvu nyingi sana hasa kwenye vibarua na muda.					
Kunapanda miti kunahitaji eneo kubwa la ardhi.					
Mazao yatokanayo na miti yanachukua muda mrefu hadi kuvuna kwake.					
Bei za pembejeo za kilimo ni nafuu.					
Mvua zisizo tabirika na na mafuriko zinaathiri upandaji wa miti.					
Jamii itanufaika sana kwa kupanda miti.					
Ntapanda aina chache tu miti.					

ASANTE KWA MASHIRIKIANO

Appendix 2: Letter to the Respondent

Dear Respondent,

I wish to notify you that this questionnaire has the aim of gathering information about the study titled **ASSESS THE IMPLEMENTATION OF NATIONAL FOREST POLICY FOR ZANZIBAR (1999): A CASE OF MKOKOTONI AND JONGOWE SHEHIAS IN NORTH 'A' DISTRICT – ZANZIBAR**. This study is conducted as partial fulfillment for award of Masters' Degree in Development Policy (MSc DP) of Mzumbe University of Tanzania, Morogoro.

The purpose of this questionnaire is kindly to ask you to have time to tell the researcher about how the National Forest Policy for Zanzibar has been implemented in the area of encouraging and supporting rural people, both men and women, to grow appropriate multi-purpose trees, in community woodlots, in agro-forestry configurations or in other arrangements that are suitable to their specific needs, capacities and customs. It should be noted that all this information will be used only for academic purpose and not otherwise, thus, you are requested to feel free when you fill this questionnaire.

General instructions for filling in this questionnaire are:- (i) Please give your answers as honestly and freely as possible; (ii) Where a written response is requested, please write clearly and legibly; (iii) Please answer question according to specific instruction given; (iv) Your answer will be treated as confidential; and (v) Don't write your name on the questionnaire when filling in the forms. Thanks for your thoughtful contribution towards this study.

***Tick or fill in the blanks at the appropriate place provided

Appendix 3: Community Questionnaire on aforestation challenges in North "A" District

A. Personal Information

1. Name of Shehia……

2. What is your Sex?

1.	Male	
2.	Female	

3. What is your age?

1.	Below 20 years	
2.	20 - 30 years	
3.	31 - 40 years	
4.	41 – 50 years	
5.	Above 51	

4. Marital status:

1.	Single	
2.	Married	
3.	Widowed	
4.	Divorced	

5. What is your educational background?

1.	Informal education	
2.	Adult education	
3.	Primary education	
4.	Secondary education	
5.	Others (specify)	

B. Information concerning extension services

6. What is your awareness about reforestation and its potential impacts? Please explain.

……

……

……

……

7. Where did you get that awareness?

1. Radio/TV……2. Community Forest Officer…….3. Community meetings…….4. Seminar/ Workshop……

8. Have you attended any workshop concerning reforestation?

1.	Yes	
2.	No	

9. Are there any village meetings concerning tree planting program?

1.	Yes	
2.	No	

10. If yes, how many meetings are held per year?

1.	One meeting	
2.	Two meeting	
3.	More than three	

11. Who facilitated the meetings?

1.	Government Officials	
2.	NGOs	
3.	Others (Specify)	

12. Have you attended any village meeting concerning tree planting?

1.	Yes	
2.	No	

13. If no, why?

……

…

14. Who is responsible for implementation of what has been decided?

……..……

15. Have you participated in any tree planting program?

1.	Yes	
2.	No	

16. Do you have had any support concerning tree planting?

1.	Yes	
2.	No	

17. If yes, which support do you get?

……

……

……

18. Are you satisfied with that support?

1.	Yes	
2.	No	

19. If no, what should be done to satisfy you?

……

……

……

……

C) Information concerning social-economic aspects of tree planting in the community

20. Which economic activity are you engaged in?

……

21. Do you own land for tree planting?

1.	Yes	
2.	No	

22. If yes, what size of the land do you own?.....

23. Would you please indicate the land tenure status of your farming plot?

1.	Inheritance	
2.	Borrowed	
3.	Hired	
4.	Allocated by district agricultural department	

24. Do you think the land used for tree planting is enough for you?

1.	Yes	
2.	No	

25. What are the sources of labour power?

1.	Family	
2.	Neighbours	
3.	Hired labour	
4.	Others (specify)	

26. What is your Income level per month?

1.	< 20,000/=	
2.	20,000/= to 30,000/=	
3.	30,000/= to 50,000/=	
4.	50,000/= to 100,000/=	
5.	Above 100,000/=	

27. Do you own a house?

1.	Yes	
2.	No	

28. Do you plant trees around your house?

1.	Yes	
2.	No	

29. If no, what are the reasons?

……

……

D. Information concerning availability of tree seedlings

30. Is there any tree nursery in your village?

1.	Yes	
2.	No	

31. Do you know how to prepare a tree nursery?

1.	Yes	
2.	No	

32. Could you please indicate your source of tree seedling?

1.	Businessmen	
2.	Tree nursery	
3.	Other (Specify)	

33. How do you get tree seedling?

1.	Buying	
2.	Free from nursery	
3.	Other (Specify)	

34. If you get by buying, for how much is it sold?

1.	200 – 400/=	
2.	500 – 600/=	
3.	700-800/=	
4.	900-1,000/=	

35. Do you consider this price affordable?

1.	Yes	
2.	No	

36. Is there any Community Forest Officer in the village?

1.	Yes	
2.	No	

37. If yes, which of the following does he/she facilitate concerning tree planting?

1.	Home/farm visits	
2.	Meetings	
3.	Demonstration	
4.	Other (specify)	

38. Is there any research centre?

1.	Yes	
2.	No	

39. If yes, how do you benefit from the research centre?

……

……

……

……

E) Information by the researcher on the perceptions of community about tree planting program

40. I would like to get your perception on the following items with regard to tree planting. Kindly indicate whether it is 4: strongly agree 3: agree 2: no opinion 1: disagree 0: strongly disagree.

Item	**4: Strongly agree**	**3: Agree**	**2: No option**	**1: Disagree**	**0: Strongly disagree**
Tree planting needs much effort in terms of labour and time.					
Tree planting need large piece of land.					
The yield obtained through tree planting takes long time.					
Prices of the recommended inputs are affordable.					
Rainfall uncertainties and hazards affect tree planting.					
Community will benefit more by planting trees.					
I would rather plant any tree species.					

THANKS FOR YOUR COOPERATION

Appendix 4: Questionnaire form for Official in Institutions officials

This questionnaire should be answered by an Official from the Department responsible for Forest, District Forest Officer, Community Forest Officer, NGOs dealing with tree planting and Shehas.

A. Personal information

1. Nature of employment ……..
2. Institution …….……
3. Title ……..…….……..
4. Age ……..
5. Sex

1.	Male	
2.	Female	

6. Marital status

1.	Married	
2.	Single	
3.	Widowed	
4.	Divorced	

7. Educational background

1.	Informal	
2.	Adult	
3.	Primary	
4.	Secondary	
5.	Others (Specify)	

B. Tree planting

8. Are you aware of any tree planting program in your locality?

1.	Yes	
2.	No	

9. Which office is responsible on tree planting? (Please mention)

   1……
   …
   2……
   …
   3……
   …

10. Does your office participate in tree planting?

1.	Yes	
2.	No	

11. If yes, how many trees are planted yearly in your District/Shehias? (please put relevant number in appropriate box)

1.	2009		
2.	2010		
3.	2011		
4.	2012		
5.	2013		

12. Name the institution your office commonly collaborates with in trees planting?

1.	Government institution	
2.	Non government organization	
3.	Individuals	
4.	Others (specify)	

13. How many tree planting groups are there in your Districts/ Shehias? ……

14. Are there any supports provided by community concerning tree planting?

1.	Yes	
2.	No	

15. Which supports are provided by community concerning tree planting?

……

……

……

C. National Forest Policy's Strategy Implementation

16. Do you know the National Forest Policy strategy for Zanzibar on encouraging and supporting rural people in tree planting?

1.	Yes	
2.	No	

17. If yes, who is responsible for implementing those strategies in your locality?

……

……

18. Could people implement this reforestation strategy within the existing government and institutional policy frameworks?

1.	Yes	
2.	No	

19. If No, what policy barriers hinder the implementation of this strategy?

……

……

……

……

20. What policy changes would your propose to facilitate implementation of this strategy?

1……

2……

3……

4……

21. What type of agriculture is commonly used by community?

1.	Crop farming	
2.	Livestock keeping	
3.	Others (specify)	

22. Do you think agricultural practices affect trees planting in the community?

1.	Yes	
2.	No	

23. If yes, which type of agricultural practices do you think contribute deforestations?

1.	Crop farming	
2.	Livestock keeping	
3.	Others (specify)	

24. What are the reasons?

1…….

2……

3……

25. What are the off-farm activities commonly used by your community? (Please mention)

1.……

2……

3……

26. Do you think these off-farm practices affect tree planting in the community?

1.	Yes	
2.	No	

THANKS FOR YOUR COOPERATION