

**REDD+ PILOTING PROCESSES: THE COMMUNITY'S PERCEPTION AND
ATTITUDE IN THE ZANZIBAR ISLANDS**

HARRIET EDWARD SUTTA

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ABSTRACT

Introduction of REDD+ initiative in Tanzania underwent a series of preparation activities including, selection of implementing NGOs, and finally the launching and implementation National REDD+ pilot projects. The pilot projects have now lasted for four years. This study was therefore carried out to assess the community perception and determined social sustainability of REDD+ initiatives in Zanzibar Islands. Specifically the study sought to determine the levels of community awareness, participation and attitudes towards this initiative. The study was conducted in Zanzibar islands in the villages of Kumbaurembe, Muyuni C, Mtende, Chuchumile and Hanyegwamchana. 90 respondents were selected randomly from households. Data collection was through questionnaires, in depth interviews and focus group discussions. SPSS, likert and indexes were used to determine the levels of participation, awareness and attitude. Content analysis was also used to analyse qualitative information from focus group discussions and in depth interviews. Findings revealed a high level of community awareness by 63.3%, a moderately high level of participation by 47.8% and a favourable attitude towards REDD+ by 77% despite low levels of education that stood at 34% for those who completed secondary school education, over dependence of forest resources and small size of land holdings that would stand in the way of the communities' perception and social sustainability towards the initiative. The study concluded that communities in Zanzibar island have positive attitude and perceptions towards REDD+ initiatives. Therefore, the likelihood that the community will continue involving in the initiative is guaranteed ensuring social sustainability of REDD+ initiative in the target communities. However, in a bid to sustain the communities' continued involvement, there should be continued capacitation of beneficiary communities concerning REDD+ initiative progress and objectives for them (beneficiary communities) to be in control of their own development.

DECLARATION

I, **Harriet Edward Sutta**, do hereby declare to the Senate of Sokoine University of Agriculture that this dissertation is my own original work done within the period of registration and that it has neither been submitted nor being concurrently submitted in any other institution.




Harriet Edward Sutta
(M.A. Rural Development)

18/09/2014

Date

The above declaration is confirmed



Dr. Dos Santos Silayo
(Supervisor)

18. 9. 2014

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DEDICATION

This work is dedicated to my lovely Mother, the late Grace Emmanuel Muhumba.

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LIST OF ABBREVIATIONS

CoP	Conference of Parties
DCC	District Conservation Committee
GhG	Greenhouse Gas
MCDI	Mpingo Conservation Development Initiative
MDG	Millennium Development Goal
MKUHUMI	Mkakati wa Kupunguza Hewa ya Ukaa Kutumia Misit
NAPA	National Adaptation Programme of Action
NEP	National Environmental Policy
NGO	Non Government Organization
NICFI	Norway's International Climate and Forest Initiative
NSGRP	National Strategy for Growth and Reduction of Poverty
RED	Reduced Emissions form Deforestation
REDD	Reduced Emissions from Deforestation and Forest Degradation
REDD+	Reduced Emissions from Deforestation and Forest Degradation plus Enhancement of Forest Carbon Stocks, Conservation and Sustainable Management of Forests
SPSS	Statistical Package for Social Sciences
SUA	Sokoine University of Agriculture
TNRF	Tanzania Natural Resource Forum
TRI	Tanzania REDD Initiative
UNFCCC	United Nation Framework Convention on Climate Change
URT	United Republic of Tanzania
UVCCM	Umoja wa Vijana wa Chama cha Mapinduzi
VCC	Heads of Village Conservation Committee
ZSGRP	Zanzibar Strategy for Growth and Reduction of Poverty

CHAPTER ONE

1.0 INTRODUCTION

1.1 Background Information

Reducing emissions from deforestation and forest degradation (REDD) initiative is considered as a possible means for mitigating climate change in developing countries (UN-REDD, 2009). It is based on a core idea: reward individuals, communities, projects and countries that reduce greenhouse gas (GhG) emissions from forests. The initiative has the potential to deliver large cuts in emissions at a low cost within a short time frame and, at the same time, contribute to reducing poverty and enhancing sustainable development (Angelsen, 2008).

The initiative (reduced emissions form deforestation - RED) was excluded as an emissions reduction strategy – from the Kyoto protocol until its reintroduction into United Nation Framework Convention on Climate Change (UNFCCC) negotiations at the 11th Conference of Parties (CoP) in Montreal, the initiative and forests were formally proposed for inclusion in the official negotiation agenda for a post-2012 regime. However, although the original agreement committed industrialized nations to significant reductions in the emissions of greenhouse gases (GHGs), by excluding the emissions reductions achieved by the avoidance of deforestation from the Protocol's carbon accounting and trading scheme, it controversially failed to provide a financial incentive for developing nations to curtail deforestation (Wiersum, 2009).

Therefore, Reducing Emissions from Deforestation in Developing Countries; Approaches to Stimulate Action', called for the development of an initiative to reward countries that promoted a 'reduction in emissions from the deforestation and degradation' of forests

with payments generated from international markets selling carbon credits (Leggett and Lovell, 2012). Thus the initiative was approved at the 16th session of the CoP of the UNFCCC in Cancun in 2010 as an eligible action to prevent climate change and global warming (URT, 2011).

Since the initiative's inclusion into the Kyoto protocol, it has evolved over time and has made changes to its scope. Each definition adopted in the evolution, carried a meaning or rather improved the approach that the initiative took. Currently, the adopted definition for the initiative is REDD+ which stands for Reduced Emissions from Deforestation and Forest Degradation plus enhancement of forest carbon stocks, conservation and sustainable management of forests. REDD+ which currently under pre implementation phase will be followed by actual implementation in the so called post Kyoto Protocol climate change mitigation and adaptation options.

Many developing countries including Tanzania have shown willingness to take serious steps toward reducing their emissions from deforestation and degradation (AECT, 2001). Tanzania, currently is piloting REDD+, there are many lessons that Tanzania is drawing on to make REDD+ implementation effective and pro-poor. A number of these lessons emerging include mechanisms for REDD+ benefit sharing as well as possible areas of engagement with the private sector. Therefore, for the communities and the country to benefit from REDD+, it is essential to address the drivers of deforestation including agriculture and the private sector as well, especially when considering the recent increase in investments on land (MCDI, 2012). The design of REDD+ initiative in Tanzania is just like other forest management schemes. For example, the Participatory Forest Management aiming at addressing climate change challenges. According to MCDI (2012) REDD+ is addressing challenges that PFM face by supporting communities to sell carbon

offsets, and thus provide a regular income to incentivize forest protection and also by covering the transaction costs of expanding PFM into new areas. REDD+ is an enabler or catalyst for more PFM which when complete, further REDD+ payments will be generated leading to more PFM. The goal is to combine schemes which utilize REDD+ methodologies to catalyze expansion of PFM across Tanzania.

1.2 Problem Statement

Today, natural forests are rapidly disappearing due to local people's over dependence on forest goods (especially wood for fuel) and an absence of ready alternatives to logging or clearing land for agricultural fields and infrastructure among others. This pressure is intensifying by securing land tenure and forest rights, which cut people's inspiration for sustainable use. Therefore, encouragement for sustainable forest management and mechanisms for just and efficient governance must hurriedly be put in place.

The realization of this led to the adoption of the REDD+ initiative in 42 countries spanning Africa, Asia-Pacific and Latin America and the Caribbean. 16 of these countries are receiving direct support to National Programmes. The countries include: Bolivia, Cambodia, Democratic Republic of the Congo (DRC), Ecuador, Indonesia, Nigeria, Panama, Papua New Guinea, Paraguay, the Philippines, Republic of Congo, Solomon Islands, Sri Lanka, Tanzania, Vietnam and Zambia (UN-REDD, 2009).

Introduction of the initiative in Tanzania underwent a series of preparation activities including, selection of implementing NGOs, launching and implementation of nine national REDD+ pilot projects in both Tanzania Mainland and Zanzibar. The areas involved in the pilot include Kondoa, Shinyanga, Mbeya, Sumbawanga, Lindi, Kilwa Kivinje, Kigoma, Kilosa and Zanzibar (TNRF, 2011). REDD+ implementation is in two

phases, the piloting phase as the first phase which will help in drawing lessons for phase two (the actual implementation phase).

As part of phase one implementation of REDD+, Tanzania has been carrying out the countries' first ever forest inventory which was expected to end by 2012 but due to delays some pilot projects like the one in Zanzibar - Hifadhi ya Misitu ya Asili (conservation of natural forest) HIMA will be completed in 2013. The project -HIMAREDD has adopted a pro poor, gender sensitive approach which has enabled strengthening stakeholder's capacity by engaging both men and women from forest dependent communities in formulating, executing and monitoring programs. However, little is known about the initiatives status and trend especially on community perception and attitudes towards REDD+ initiatives. The question is as to whether the community is satisfied with the implementation process or not. Therefore, this study intended to assess the perception and attitude of local communities towards REDD+, REDD+ activities and also the willingness of the community to continue involving in REDD+, specifically by examining their levels of awareness, participation and attitudes.

1.3 Justification of the Study

This research was carried out based on the fact that there is limited knowledge about REDD+ and the piloting process status and trend especially on community perceptions and attitudes. Therefore this study focused on the factors pre and post REDD+ implementation and the beneficiary's attitudes, involvement and awareness to bring into light about the perception of the community towards REDD+ and the overall piloting process.

Studying the community perception and attitudes on REDD is important based on the fact that the monitoring of the implementation of REDD+ in Tanzania needs to be operated at two levels according to Burgess *et al.* (2010). The national baseline and calculation of reference emission levels and potential emission reductions will be developed using remote sensing and a network of forestry plots. However, these approaches struggle to provide the details required to assess the implementation of community-level forest conservation interventions. In these cases, alternative locally based or community forest management approaches are more likely to be successful. Locally based monitoring involves local people or local government staff directly in data collection and interpretation and also employ relatively simple and cheap methods which require few other resources (Danielsen *et al.*, 2005, 2008; Van Laake *et al.*, 2009). It has also been shown that local people can count trees, measure their girth and identify the species accurately (Skutsch *et al.*, 2009) at a cost-effectively way, thus necessitating the need to understand their perception to these initiatives.

The study bears a direct relevance to the National Strategy for Growth and Reduction of Poverty (NSGRP/MKUKUTA) cluster II (URT, 2010), Zanzibar Strategy for Growth and Reduction of Poverty (ZSGRP/MKUZA) (RGZ, 2007), the National REDD+ Strategy (2013), Millennium Development Goal (MDG) number 7 with the objective to ensure environmental sustainability, The National Environmental Policy (URT, 1997), and the National adaptation Programme of Action (NAPA) objective 5 and 7 (URT, 2007).

1.4 Objectives of the Study

1.4.1 General objective

The general objective of this study was to assess the community perception and determine the social sustainability of REDD+ piloting process in Zanzibar Islands.

1.4.2 Specific objectives

- i. To determine whether there are forests reserves in the study area.
- ii. To determine awareness of forest dependent communities on REDD+ and the piloting process.
- iii. To determine participation of forest dependent communities on REDD+ initiative piloting process.
- iv. To determine the attitude of forest dependent communities on REDD+ piloting process.

1.5 Research Questions

- i. Are there forests reserves in the study area?
- ii. Are the forest dependent communities aware about REDD+ initiatives?
- iii. Do the communities participate in REDD+ initiatives?
- iv. What is the attitude of forest dependent communities on the process of piloting REDD+ in the area?

CHAPTER TWO

2.0 LITERATURE REVIEW

2.2 Theoretical Framework

The study has been guided by the theory of “perception-in-action” derived from the early work of Gibson (2002) that says perception is a necessary property of animate action; that without perception action would be unguided, and without action perception would serve no purpose. This means that perception and action are inter dependent, before an action is taken series of events must occur. For example, the perceiver has to acquire information using the five senses by seeing, hearing, smelling, touching or testing, then the perceiver has to process the information in an attempt to gain more insight about it (understand) and finally take action. In this regard, REDD+ initiative as an action to be undertaken, is highly dependent on how it is perceived by the community implementing it thus assuring its sustainability.

However, critics of this theory claim that the notion “perception is a necessary property of animate action; and that without perception action would be unguided or without action perception would serve no purpose” is controversial. Loomis and Philbeck (2008) argue that perception cannot be measured directly instead it should be understood that the perceiver’s ability affects the perceiver’s judgment about what they see, rather than affecting perception itself. To them, the ability of a perceiver may be a hindrance in action taking, because it affects their judgement. In this case the perceiver’s ability may be intentional, intellectual or physical. For example, forest dependent communities may intentionally choose not to involve in REDD+ initiative implementation because they directly depend on the forest resources for their daily household income even though they know the impacts of deforestation on climate change. However, some may not participate

because of their low intellectual or physical abilities as provided by their age, income, education or marital status.

According to Loomis and Philbeck (2008) therefore, the abilities of the perceiver should be measured as well in order to have comprehensive explanations on perception. For example, the focus should be on both how the perceiver gained insight about REDD+ initiative implementations and also the perceiver's views and actions towards REDD+ initiative implementation. Therefore, basing on both arguments of the theory; that perception guides an action and that perception cannot be measured directly, this study has considered perception and perceiver's ability as necessary ingredients in the assessment of perception of forest dependent communities on REDD+ and the piloting process in Zanzibar Islands, and also in answering the question as to whether the community will continue involving in REDD+ implementation by directly examining the levels of community awareness, participation and attitude towards the implementation of REDD+ initiative.

2.3 Climate Change Mitigation and Adaptation

The terms "adaptation" and "mitigation" are two fundamental terms in the climate change debate. IPCC (2007) defined adaptation as adjustment in natural or human systems in response to actual or expected climatic effects. Similarly, Mitchell and Tanner (2006) defined adaptation as an understanding of how individuals, groups and natural systems can prepare for and respond to changes in climate or their environment. According to them, it is important to reduce vulnerability to climate change. While mitigation tackles the causes of climate change, adaptation tackles the effects of the phenomenon.

Actions to limit/ tackle the magnitude of long term climate change which generally involves reductions in human (anthropogenic) emissions of greenhouse gases (GhGs) are called mitigation actions (IPCC, 2007). Mitigation actions are developed more often because the more mitigation the lesser the impacts to which we will have to adjust and the lesser the risks for which we will have to try and prepare. Equally, the greater the degree of preparatory adaptation the less may be the impacts associated with any given degree of climate change. Mitigation can be achieved in several ways including increasing the capacity of carbon sinks. For instance through expanding forests (reforestation) to remove greater amounts of carbon dioxide from the atmosphere and switching to low-carbon energy sources such as renewable and nuclear energy.

REDD+ is among the approaches to climate change mitigation just like the geo-engineering which can be organized into two categories the solar radiation management which involves reducing incoming sunlight of the Earth's surface and carbon dioxide removal which involves reducing the atmospheric concentration of carbon dioxide by increasing the capacity of the oceans to absorb carbon from the atmosphere. Similarly, REDD+ initiative seeks to reduce the atmospheric concentration of carbon dioxide through carbon sinks.

A global goal for REDD+ contains specific emissions reductions targets for a defined period of time necessary to achieve tropical forests' full potential to contribute to climate change mitigation. According to the UNFCCC (2010) 2020 is the peak year targeted to acquire annual global greenhouse gases emissions significantly and thereafter, in year 2050 to have emissions reduced by 30-50% compared to 1990 levels. The goal is associated with the financial benefit and has pulled many developing countries Tanzania inclusive, to show willingness to take serious steps toward reducing their emissions from

deforestation and degradation by putting voluntary targets to their mitigation actions (IPAM, 2010).

2.4 Evolution of REDD+

The 13th and 14th CoP of Bali and Poznan, Poland in 2007 and 2008 respectively as according to Sunderland *et al.* (2010) saw the definition of REDD - Reducing emission from deforestation and forest degradation evolve over time. The evolution has made changes to the scope of REDD from Reduced Emission from Deforestation (RED) to Reduced Emissions from Deforestation and forest Degradation (REDD), and further to Reduced Emissions from Deforestation and forest Degradation plus enhancement of forest carbon stocks, conservation and sustainable management of forests (REDD+). Each definition adopted in the evolution of the scope of REDD carried a meaning or rather improved the approach that REDD will take.

Silayo (2011) showed that Reducing emissions from (gross) deforestation (RED); only means changes from 'forest' to 'non forest' land cover types and details depend very much on the operational definition of 'forests'. Hence, the original objective of paying for a forest regulatory service with regard to climate change gradually is extended by adding objectives regarding additional ecological requirements as well as social requirements on responsible management systems and proper benefit sharing.

2.5 Status of Tanzania's Forests

Globally it is recognized that forests are good catalysts of mitigating climate change also impounding carbon. But due to human activities, deforestation is highly practised especially in the third world countries like Tanzania and it has become a global issue. URT (2009) reported that beyond its destructive impacts on biodiversity and the

livelihoods of forest-dependent people deforestation is a major driver of climate change and accounts for roughly a fifth of global greenhouse gas emissions, deforestation and the degradation of earthly ecosystems are believed to account for up to 25% of anthropogenic greenhouse gas emissions.

Studies have revealed that the over reliance on forests is having serious effects in the country. A recent report by FAO (2010) revealed that 37.7% or about 33 428 000 ha of Tanzania are forested. The same report showed that in ten years between 1990 and 2010 Tanzania lost an average of 403 350 ha or 0.97% per year giving a total loss of 19.4% due to forest degradation and deforestation.

Major causes of uncontrolled deforestation in Tanzania include high population growth, excessive demand of forest products in form of timber for building materials, energy from firewood. Others include; expansion for agriculture production, commercial farming bush fires and shifting cultivation (URT, 2011). It has been noted that deforestation and degradation take place in both reserved and unreserved forests but more so in the unreserved forests due to inadequate resources to implement active and sustainable forest management activities (URT, 2010).

2.6 REDD+ pilot Process in Tanzania

The government of Tanzania has since 2008 been making preparations to establish REDD+ initiative systems. The preparations started by Norway and Tanzania signing a Letter of Intent (LoI) on a Climate Change Partnership focused on REDD+ in April 2008. The purpose of the Partnership was to “implement programs on adaptation and mitigation of climate change”. To operationalise the Partnership, Norway’s International Climate

and Forest Initiative (NICFI) committed NOK 500 million (about US\$ 83 million) over a five-year period (Norad, 2010).

The national REDD+ (Reduced Emissions from Deforestation and forest Degradation) initiative was launched on Monday 24th August 2009 at Kunduchi Beach Hotel Dar es Salaam. The REDD+ Launching event was organized by the National REDD+ Task Force Members through the REDD+ Secretariat (TRI, 2010).

In 2009, publication of the National REDD+ Framework was developed to provide a vision of future REDD+ outcomes, processes and challenges to be addressed if goals are to be met. The framework is based on the objectives of reducing emissions related to deforestation and forest degradation as well as reducing poverty of forest dependent communities (URT, 2009).

The national Framework for REDD+ developed in 2009 and is linked to current national growth and development strategies such as the National Growth and Poverty Reduction Strategy Program (MKUKUTA). But before the framework was developed and REDD+ was launched, Tanzania had to identify priority activities to her urgent and immediate needs to adapt to climate change by developing the National Adaptation Programs of Action – NAPA in 2007.

At the time of the United Nations Framework Convention on Climate Change (UNFCCC) Conference of the Parties (CoP 13) in Bali in 2007, knowledge about REDD+, climate change mitigation and adaptation was very limited among Tanzanian policy makers, technical ministries and civil society and no REDD+ projects existed. At grass roots level there was almost no awareness/knowledge and therefore no ownership of climate change

mitigation, adaptation and REDD+ in 2007. However, activities such as participatory forest management were underway in 2007 along with activities to promote carbon sequestration and trading through Voluntary Carbon Markets in this context (Norad, 2010).

The Government of Tanzania has endorsed the National REDD+ Strategy and its Action Plan. The Strategy and Action Plan have been produced through country-wide stakeholders' consultation and engagement. According to URT (2013) the Strategy envisages to guide the implementation and coordination of mechanisms required for Tanzania to benefit from a post-2012 internationally approved system for forest carbon trading based on demonstrated emission reductions from deforestation and forest degradation and other aspects of REDD+. The goal of the Strategy is to facilitate effective and coordinated implementation of REDD+ related policies, processes and activities so as to contribute to climate change agenda and overall sustainable human development.

2.7 The Social Dimensions of Climate Change: The case for Participation,

Awareness and Attitude Change

La Vina *et al.* (2011) indicated that the scope for applying social accountability principles in climate change, let alone REDD-Plus, is founded on the simple realization that the climate crisis is essentially a social crisis interacting with several political, economic, and environmental factors. The understanding of these concepts helps us structure our views that climate change impact not only on the environment but also on the social dimensions and implications. Therefore it is wise to identifying areas for mainstreaming social accountability interventions in climate change strategies.

2.8 Perception

Perception (from the Latin *perceptio*, *percipio*) is the organization, identification, and interpretation of sensory information in order to fabricate a mental representation through the process of transduction (Schacter, 2011). Perception comes after awareness and is followed by involvement. It is a necessary ingredient for sustainability of any initiative. For example, Kusaga *et al.* (2012) observed that the household living in miombo woodlands in Tanzania derive more than 50% of their cash incomes from selling forest products thus the population will have a negative perception about REDD+ interventions.

However, REDD+ interventions can be successful if only awareness is created for the purpose of introducing the new concept and assessing the communities' willingness to participate in activities. They argue that forest communities must be informed about REDD+ initiative and have choices clearly presented to them (forest communities) because changing livelihood strategies or participating in a new programme may be too risky or unattractive to them.

2.9 Participation

The definitions and concepts of participation in development have evolved over time this means that different development facilitators have a different understanding especially on who, when, what, where and how to participate (McGee *et al.*, 2001). According to the TNRF (2011) participation in REDD+ is a right in itself and helps realize other rights it helps create accountability, enhances effectiveness, creates awareness, legitimacy and promotes sustainability. It is widely agreed that REDD initiative should be "participatory." and effective participation in it implies among others: Opportunities for empowered participation in all phases, well governed processes (including transparency

and accountability), equitable access to decision making processes and sufficient time, resources and capacity for all stakeholders to meaningfully participate.

2.10 Awareness Creation and Capacity Strengthening

According to Wyart and Tallon-Baudry (2009) awareness is a state or ability to perceive, to feel, or to be conscious of events and objects or sensory patterns. Awareness to REDD+ means communities' readiness to act in the process of piloting REDD+. However, the community will act when a proper environment has been prepared for them. In this case, REDD+ initiative has prepared an effective and equitable strategy to reduce emissions from deforestation and forest degradation and associated activities. The strategy focused on activities that facilitate communication and raises awareness about REDD+ to the beneficiaries as a tool to ensure effective engagement and participation by all including local people.

Community members participate in informed and empowered ways if substantial investments in awareness raising and capacity strengthening are emphasized. WWF (2011) for example, has found that while there is still relatively little information about the initiative at the local level, there is also substantial misinformation. Part of their capacity strengthening efforts are thus focusing on ensuring communities have accurate information to participate in the initiative on empowered and informed terms.

2.11 Attitude and Attitude Change

According to AECT (2001) attitude can be defined as a positive or negative evaluation of people, objects, event, activities, ideas, or just about anything in their environment. It is how one judges any person, situation or object. The functional theory of attitude pose fundamental question about attitudes concerning their purpose: That is what

functions do attitudes serve? Functional theories of attitude entered the literature in the 1950s when researchers developed the idea that attitudes served varying psychological needs and thus had variable motivational bases (AECT, 2001).

CHAPTER THREE

3.0 RESEACH METHODOLOGY

3.1 Description of the Study Area

The study was carried out in Zanzibar, a group of Indian Ocean islands that constitute a semi-autonomous region part of Tanzania, in East Africa. It comprises the Zanzibar Archipelago in the Indian Ocean, 25–50 kilometres off the coast of the mainland, and consists of numerous small islands and two large ones: Unguja (the main island, informally referred to as Zanzibar), and Pemba. Other nearby island countries and territories include Comoros and Mayotte to the south, Mauritius and Reunion to the far southeast, and the Seychelles Islands to the east.

Zanzibar was selected purposely because it is among the nine project piloting areas in Tanzania (a four-year 2010 – 13 HIMAREDD). The project intends to explore how carbon finance can be used to deal with the fundamental causes of deforestation and create an enabling environment for the sustainable management of forest goods and services.

According to CARE (2010) the project is working in partnership with local civil society and government institutions. The project is being implemented in seven districts of Unguja and Pemba Islands. More than 27 000 hectares of upland and mangrove forests, successful activities will then be scaled-up to conserve a total of 60 000 hectares.

3.2 Research Design

A cross-sectional study was conducted to allow the collection of data at a single point in time.

3.3 Sampling Procedure and Sample Size

The study employed a purposive sampling technique. Districts of Unguja North B, Unguja South and Unguja Central were purposely selected because they are involved in the HIMAREDD pilot project. Four Shehias were selected purposely in which five villages were involved in the sampling process. From the purposely selected Shehias five villages Kumbaurembo, Muyuni C, Mtende, Chuchumile and Hanyegwamchana were selected.

The selection was done with the help from the REDD+ implementing team specifically CARE International Zanzibar and in collaboration with the local government authorities. This is because the study specifically wanted to capture feelings and reactions of the forest dependent communities living in the areas implementing REDD+ project.

A list of households was obtained from the respective village governments where the respondents were randomly selected. The names of household heads were written in the pieces of paper and were collected in one box for selection. 18 households were picked in each village making a total of 90 households which translates into 90 respondents.

3.4 Data Collection

3.4.1 Pre-testing of research tools

A pre test of the research tools was conducted by involving 10 households selected randomly from Hanyegwamchana village. The 10 household respondents who participated in the pre test were excluded during final data collection. Pre-testing was done to establish the relevance/ applicability of the questions, respondents understanding and interpretation of the questions. Thereafter the tool was refined to get the final version that was used for data collection.

3.4.2 Questionnaire survey

A Semi-structured interview schedule with both open and close-ended questions was used to gather information from the households (Appendix 1). This tool was used to collect information regarding, attitude of the forest dependent communities on REDD+ and the piloting process, their awareness on REDD+ and involvement in the piloting process. Generally this information gives a picture of the perception of these forest dependent communities on the project REDD+ and its piloting process.

3.4.3 In-depth interviews

An in depth interview was conducted with key informants from the core actors in piloting REDD+, the CARE International project coordinator, members of the District Conservation Committee (DCC), and heads of Village Conservation Committee (VCC). The information collected from these groups included, evidence of community land ownership status, benefits of REDD+ initiatives in the community and the general status of environment in the study areas.

3.4.4 Focus group discussion

In each village, one Focus Group Discussions was conducted for forest dependent communities. The groups composed of six members from each village two women and four men. Information gathered from these groups cut across REDD+ pilot activities especially the problems associated with implementation process that the forest dependent communities experience and effectiveness of the communication methods REDD+ team employ to inform the communities about the initiative. A Focus Group Discussion checklist which is attached as Appendix 2 was used to guide this exercise.

3.5 Data Processing and Analysis

Statistical Package for Social Sciences (SPSS) was used to analyse quantitative data while content analysis was used to analyse qualitative data. Detailed description of the measurement by objectives is given below.

3.5.1 Determination of forest dependent communities' attitude towards REDD+

Likert scale was used to measure the attitude of forest dependent communities toward REDD+ piloting process. A four level of measurement summated scale which had six statements was used. The statements were categorised into two sets, the first set had positive statements where every respondent was asked to indicate if they are dissatisfied (1), somewhat dissatisfied (2), and somewhat satisfied (4) or satisfied with each item of the scale. The second set had negative statements where every respondent was asked to indicate if they disagree (1), disagree somewhat (2), and somewhat agree (3), or agree (4) with each item of the scale. If one had had an extremely unfavourable attitude (1) towards each of the 6 statements, one would have scored 6 (i.e. 1 x 6). If one had had an extremely favourable attitude (4) towards each of the six statements, one would have scored 24 (i.e. 4 x 6). Therefore, overall, six to 12 scores represented unfavourable attitude and 13 to 24 represented favourable attitude. The study adopted a four level scale of measurement. None of the respondent gave a neutral response.

3.5.2 Determination of the levels of participation and awareness of forest dependent communities on REDD+

The issues of participation and awareness in the REDD+ were analysed using an index. Due to the absence of any universal measure of participation and awareness index, intensity of peoples' participation and awareness towards REDD+ was captured by adopting Singh's (1992) approach. Three determinants of participation were used; the

determinants were classified and assigned weight into low (1), medium (2) and high (3). Low levels of participation (1) towards three determinants would score three. Medium levels of participation (2) towards three determinants would score six. High level of participation (3) towards three determinants scored nine.

Issues of awareness also were computed in a similar way but for the case of awareness the determinants/indicators were five where low level scored five, medium scored 10 and high level scored 15. Higher level of participation or awareness determinants implies relatively greater degree of satisfaction of the desired category of participation or awareness determinants.

Descriptive statistics were also used whereby quantitative data collected from respondents were summarised, coded, and entered in the Statistical Package for Social Sciences (SPSS) programme spread sheets. Additionally, Chi square was used to test the relationship between variables. Qualitative information, particularly related to feelings and people's opinions, was recorded through FGDs and was subjected to content analysis.

CHAPTER FOUR

4.0 RESULTS AND DISCUSSION

4.1 REDD+ Piloting in Zanzibar

CARE international Zanzibar is Piloting REDD+ through Community Based Forest Management and is among the nine National REDD+ pilot projects in Tanzania. The project began in 2010 and will be winding up in 2013. The actual implementation of REDD+ will depend on the performance of the pilot phase. Since 2010 HIMAREDD has been undertaking readiness activities in the islands. These activities included capacity building to ensure communities' readiness to participating in the future REDD+ initiatives. However, in an interview with a conservation committee teams it was revealed that conservation practices in the study area had started as early as 1972. Some of the conservation activities that have been taking place since then were conservation education, forest fire patrols and tree planting. There has been a review of these conservation practices whenever deemed appropriate.

It was also noted that the conservation activities have helped improve status of the community forests in the study areas. The conservation education had to a large extent created awareness to the local communities especially on issues of deforestation and its impact on climate change. An assessment of the community's understanding on the impacts of climate change in their area showed that they have been experiencing multiple effects as shown in Fig. 1. Similarly, the WWF (2011) study reported that humans, plants and wild animals face new challenges for survival because of climate change. These challenges include more frequent and intense drought, heat waves, rising sea levels, and warming oceans which directly harm, humans, animals and crops habitat and wreak havoc on people's livelihoods.

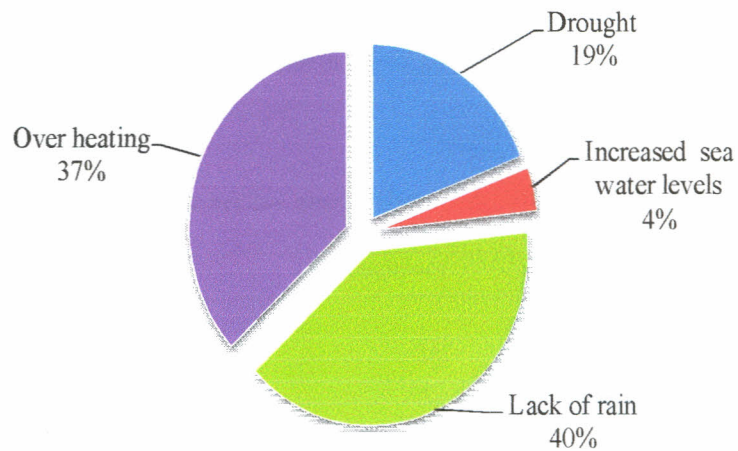


Figure 1: Impacts of deforestation on climate change in the study villages (n=90)

4.2 Socio - Economic Characteristics of the Respondents

Social economic characteristics of the studied community have included age, sex, education, marital status, household main occupation, land ownership, size and utilization.

4.2.1 Age of respondents

Results showed that most respondents were between 30 and 40 year of age as represented by 28% of the population (Table 1). Respondents interviewed were household heads aged between 19 to 62 years implying that large proportion of the respondents were matured and responsible people who were rational in making decisions. URT (2001) reported that age of a household head influences decision making and provision of labor itself. Additionally, the age bracket is also the most active and busiest age engaged in various economic activities for the wellbeing of the families including; farming, fishing and petty business also it is the same population that the initiative (REDD+) is using to implement its activities like forest patrolling, tree planting and trainings on best conservation

practices. According to the World Bank (1996) report indicated adults between the ages of 15 to 64 are the most economically active age in the developing countries and is the work force support of the children and elderly.

Table 1: Distribution of respondents by age in the study villages (n = 90)

Characteristics	Frequency	Percent
Age group		
19 - 29	21	23.3
30 - 40	26	28.8
41 - 51	23	25.5
52 - 62	11	12.2
> 63	9	10.0

4.2.2 Marital status

Marriage is a social union or legal contract between people that creates kinship. It is an institution in which interpersonal relationships, usually intimate and sexual are acknowledged in various ways, depending on the culture in which it is found. Such a union is often formalized via a wedding ceremony. The Marriage Act of Tanzania defines marriage as the voluntary union of a man and a woman, intended to last for their joint lives (URT, 1971). Marital status in this study was defined as the current position of marriage of each forest dependent community mature woman and man. This included married, single, divorced, widowed people living in the study villages that pilot REDD+ initiative.

Results showed that 68% of the respondents were married and living with spouse while the rest were either single, widowed, divorced or separated (Table 2). This implied that many families were stable. Stable families are important in production activities because they have enough assets for production and can concentrate more on production and own

the means than unstable ones. Omar (1997) argued that in Tanzania, single family units are among the unstable population groups, unstable in a sense of the most poorest because they have limited assets or means of production as compared to the burdens they have especially the single parents. Therefore, the likelihood for participation of community members and sustainability of the REDD+ initiative piloting process in the study area is high because of family stability.

Table 2: Distribution of respondents by marital status in the study villages (n = 90)

Characteristics	Frequency	Percent
Marital status		
Married	62	68.9
Single	14	15.6
Widowed	10	11.1
Divorced/Separated	4	4.4

4.2.3 Educational attainment and respondents occupation

The findings showed that the level of education of the studied community was relatively very low. The study was interested with the years the respondents spent in school which in this case were; three years, seven years, nine years, 10 or 11 years. Results in (Table 3) indicated that 34.4% had completed 11 years of secondary education but 24.4% dropped in form two (ninth year) and about 12.2% had dropped in form three (tenth year).

Further results (Table 3) revealed that 17.8% of the respondents had acquired primary level of education and about 11.1% had dropped out in before primary education completion. This observation implies that, majority of the respondents in the study area were literate and could therefore follow simple environmental conservation instructions and technical recommendations given by REDD+ initiative including avoided deforestation through poor methods of agricultural such as shifting cultivation, charcoal

burning and firewood collection which also are among the factors contributing to climate change.

However, with low levels of education the likelihood that majority of the population may not be rational enough to make decisions on issues related to or adhere to principles guiding environmental conservation measures. UNESCO (2009) report that education be it formal or informal plays an important role to an individual especially in the use of surrounding resource and transformation of their immediate environment. More importantly, it may facilitate information accessibility or may hinder access to information.

Table 3: Distribution of respondents by education and occupation in the study area (n=90)

Characteristics	Frequency	Percent
Respondents education		
Three years(standard 3 drop outs	10	11.1
Seven years(completed primary education)	16	17.8
Nine years(form two drop outs)	22	24.4
10 years(form three drop outs)	11	12.2
11 years(completed secondary education)	31	34.4
Occupation		
Formal employment	4	4.4
Agriculture	59	65.6
Business	27	30.0

Additionally, the higher educated a person is the higher are the chances of employment opportunities. Results (Table 3) show that 4.4% of the respondents were employed in the formal sector while 65.6% engaged in agriculture and 30% engaging in petty trading (fish selling, charcoal and firewood selling). This is in line with the findings in the URT (2005) which reported that occupation is to a large extent, determined by education. It is argued

that there is a strong relationship between earnings from paid employment and education level of household. This implies that, the REDD+ initiative may lack potential people to work as projects' technical personals within the study area.

4.2.4 Land ownership, size and utilization

Findings indicated that 74 (82.2%) of the household interviewed owned pieces of land while about 16 (17.8%) were landless (Table 4). Based on the gathered information from focus group discussion, there was no evidence of anybody with a title deed. It was further revealed that ownership of land in the study area was either through inheritance or allocation by the local leadership. It was further learned that most households 41.7% own an average of a single acre while very few own more than three acres (Table 4).

It was noted during Focus group discussion that, subdivision of landholdings prevails as a result of patriarchal system with family members owning small parcel of land. Limited land results to low or limited productivity as indicated that 86.5% of the land was allocated to agricultural activities and the remaining 13.5% was for settlement (Table 4). This means that agriculture is the main economic activity performed by the communities. According to the RGZ (2012) agriculture is an important economic sector of the Zanzibar economy in terms of food production, employment generation, production of raw materials for industry, and generation of foreign exchange earnings. The agricultural sector produces about 30.8 percent of the GDP (Economic Survey, 2009). This implies that over dependence of forested land by communities for agriculture, energy and settlement needs are high thus more likely to affect the acceptance of the REDD+ initiative in the area. Therefore, the need to advocate for proper land division in the study are arise so that to have proper land allocation for easy conservation activities conducted by REDD+ initiative.

Table 4: Distribution of respondents by Land ownership, size and utilization in the study villages (n = 90)

Statement	Frequency	Percent
Land ownership		
Yes	74	82.2
No	16	17.8
Land size		
A quarter an acre	6	8.3
A half an acre	9	12.5
One acre	30	41.7
Two acres	25	34.7
More than three acres	2	2.8
Utilization		
Farming	64	86.5
Occupation	10	13.5

4.2.5 Source of energy for cooking and collection points

Findings showed that the main sources of energy for domestic purposes in the study area was fuel wood. When asked how they get the wood, results showed that 82.2% of the households collect fuel wood for free while 13.3% buy from business people (Table 5). Results further showed that a small proportion (4%) of the households use charcoal for cooking. This observation tallies well with findings from different parts of Tanzania. For example, URT (2010) showed that Over 90 % of Tanzanians depend on wood fuels to meet their energy needs. Increased population has heightened the demand for wood fuels, while the majority (mostly the poor) don't have access to alternative sources of energy. URT (2007) also reported that the rates of deforestation are estimated to be 91, 276 hectares per year in 2002, with main reasons for deforestation being clearing land for agriculture and settlement, overgrazing, wildfires, charcoal burning and over-exploitation of wood resources. These practices contribute a great share to the increase of CO₂ in the atmosphere. The implication is that forest degradation is not avoided since majority of the energy needs are from forests and that the population demanding expands daily.

Therefore, REDD+ as an initiative to mitigate climate change has to ensure that community energy needs are met by providing alternative sources of energy and income generating activities that will diverge people from charcoal and fuel wood business as they participate in the REDD+ implementation. However, much of this fuel wood in the study villages is collected from open forests/ general land 80% and farm land 20% (Table 5).

Table 5: Source of energy for cooking in the study villages (n = 90)

Characteristics	Frequency	Percent
Source of cooking energy		
Collected fuel wood	74	82.2
Bought fuel wood	12	13.3
Charcoal	4	4.4
Collection point		
Open forest	72	80.0
Farm land	18	20.0

4.2.6 Presence of a forest, forest types and community access to forest resources

Findings in Table 6 indicated that, all villages in the study areas have forest reserves (100%). Other forest types found in the area include open/community which communities have full access of forests resources like fuel wood and other non timber forest resources 80% of the respondents confirmed this. Focus group discussion revealed that forest reservations were purposely done to curb deforestation and forest degradation which is mostly driven by the overdependence of forest resources for energy. It has been noted that deforestation and degradation take place in both reserved and unreserved forests but more so in the unreserved forests due to inadequate resources to implement active and sustainable forest management activities (URT, 2010). This implies that REDD+ initiative should embark on active and sustainable forest management implementation by

providing resources required in order to reduce continued forest degradation even with increased population grows and the demand for energy from forest products.

Table 6: Types of forests and accessibility to forest resources in the study villages
(n = 90)

Characteristics	Frequency	Percent
Presence of forest		
Yes	90	100
No	0	0.0
Type of forest		
Closed/reserved forest	18	20.0
“Both” open and closed forests	72	80.0
Access to forest resources		
Yes	72	80.0
No	18	20.0

4.3 Community Awareness on REDD+

The awareness level of the communities on REDD issues was assessed using several indicators. These indicators were tested in two levels of either being aware or not aware. Results indicated 80% of the respondents knew the role forests play in climate change. Key informant showed that the community is aware of some issues surrounding climate change and forest management in the area. For example, one respondent Mr. Hafidhi, Othman said “For sometime (not certain how long), we have been experiencing effects of climate change especially in the months of September, October and December, ocean water has been increasing destructing sea activities, unpredicted rain patterns and increased heat we believe if we plant trees, some of these effects will be minimized”.

Further, it was learned that 87.8% of the forest dependent communities are aware of the forest management group (MKUHUMI) that is supporting their conservation activities.

Additionally, 87.8% received forest management information from the group more often “many people are caught in the forests and we get to know about that” (Hajat Hajira, Alli). 54.4% of the respondents are allowed access to their forests and 82.2% of the respondents know the difficulties the group faces while managing the forests reserves (Table 7).

Table 7: Community awareness on REDD+ (n=90)

Characteristics	Not aware (%)	Aware
Determinants of awareness		
1. Aware of the role of forest on climate change	20.0	80.0
2. Aware about a forest management group.	12.2	87.8
3. Receive information about the forest management process from the group.	12.2	87.8
4. Allowed to use forest resources by the group	45.6	54.4
5. Difficulties faced by forest management group.	17.8	82.2

4.3.1 Respondents overall awareness level

The overall level of awareness of the forest dependent communities towards REDD+ piloting was high by 63.3%. The results in figure 2 are based on a scale of measurement that had three levels low, medium, and high. This implied that the community is well informed about REDD+ initiative and that the likelihood that they will engage in REDD+ implementation activities is high. According to Marg (2008) participation by villagers across all income classes is conditioned by awareness, initiation, motivation and a facilitating community friendly attitude.

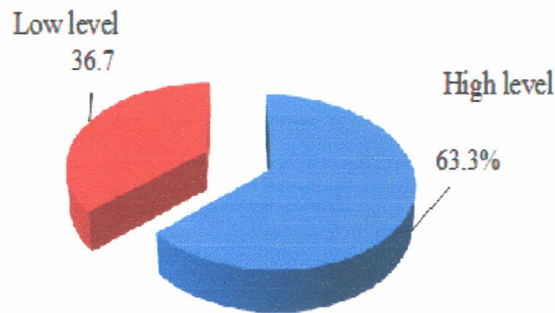


Figure 2: Respondents overall level of awareness towards REDD+ initiatives in the study area

4.3.2 Community awareness and participation towards REDD+ implementation

Community awareness and participation in most cases go together; several studies have revealed that for any member to participate fully in any intervention they must be well informed about the initiative intentions, scope, benefit and the goal. For example, the Carpathian convention (2006) argues that awareness and access to information are prerequisites of participation. Results in Table 8 indicated that 100% of the community members who participated in the implementation of REDD+ project knew what REDD+ entails. Respondents could identify the activities performed by the project and could clearly explain the benefits associated with the project.

The Chi square results indicated that there is a highest level of significance ($P=0.001$) between participation and awareness of towards REDD+ project. This implied that the respondents who were aware about the project REDD+ actively participated in the implementation of the project as compared to those who did not participate.

Table 8: Association between awareness and participation towards REDD+ (n =90)

Characteristic	Indicator	Participation in REDD+ %			X ²	P-value
		Yes	No	Total %		
Awareness towards REDD+	Yes	100	0	74.4	90.000	0.000***
	No	0	100	25.6		

***=Significant at 1% level of significance

4.3.3 Community awareness towards REDD+ initiatives

Community awareness towards REDD+ was further subjected into Chi square test to determine the association between awareness and background variables. Table 9 indicated there is no significance difference between awareness towards REDD+ and sex, marital status and occupation. Implying that REDD+ project was known by all people. However, knowledge about REDD+ varied among groups. For example, 54.4% of respondents engaging in agriculture had more knowledge about REDD+ as compared to those doing business and the formal sector employees (Table 9). Possible explanation to this situation is that, those engaging in agriculture were the majority, most reached group and the main target of the REDD+ project simply because, they directly and daily interact with nature or environment hence are more likely to degrade the forests if they are not given conservation education.

Additionally, about 55.6% of the respondents who knew REDD+ belonged to the group of the married (Table 9). In the focus group discussion, respondents made a comment that married people have more chances of getting information such as through spouses and they fall in the ages bracket that is targeted by development initiative thus receive developmental information. Omar (1997) argued that married families are more stable as compared to single families and they strive to take part in any developmental agenda to diversify their family income.

Table 9: Association between background variables and awareness (n= 90)

Characteristics	Indicator	Awareness towards REDD+ %		X ²	P-value
		Yes	No		
Background variables					
Sex	Male	47.7	11.1	3.031	0.082 ^{ns}
	Female	26.6	14.4		
	Total	74.3	25.5		
House hold main occupation	Formal employment	2.2	2.2	0.626	2.677 ^{ns}
	Agriculture	54.4	11.1		
	Business	23.3	6.7		
	Total	77.8	17.8		
Marital status	Single	12.2	3.3	0.288	4.992 ^{ns}
	Married	55.6	13.3		
	Divorced	1.1	2.2		
	Separated	1.1	0		
	Widowed	10	1.1		
	Total	79.9	19.9		

ns= Not significant

4.3.4 Forest management groups

Community identification of the forest management group in their locality was an important indicator of awareness of the project REDD+. Findings in Table 10 indicated that 49.4% of the respondents mentioned MKUHUMI/REDD as the forest management group in the location, others mentioned conservation committee, environmental committee and forest committee. Results further showed that there were different means through which the community came to know about conservation groups and their activities. For example, 91.4% of the respondents knew through community meeting with the remaining learned through their village leaders (Table 10). The implication for this finding is that a community meeting is the most effective and appropriate means of communication in the study area. In a discussion with officials in the REDD team, they argued that it is easy to pass information through a community meeting than sending the leaders, using radio or TV because of the nature of activities people in the study area engage in.

Table 10: Forest management group and the means through which the community came to know about the group (n=90)

Characteristics	Frequency	Percent (%)
Name of the group		
MKUHUMI/ REDD	39	49.4
Conservation committee	20	25.3
Environmental committee	13	16.5
Forest committee	7	8.9
Knew through		
Community meeting	74	91.4
Village leaders	7	8.6

4.3.5 Forest management groups conservation activities

Respondents in the study area knew different activities that are performed by the forest management groups in their localities. For example, while about 72% of the respondents mentioned forest fire, forest patrols and tree planting the rest of the respondents mentioned community mobilization and mass education about conservation practices. The activities performed aimed at preparing the community for actual implementation of REDD+ initiative after the piloting phase (REDD Readiness). The implication is that the activities will improve the status of community forests, communities' wellbeing and then reduce/cut Greenhouse Gases emissions.

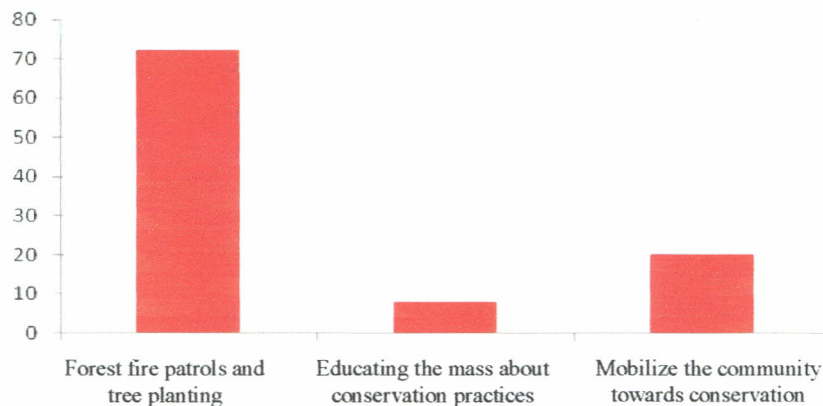


Figure 3: Conservation activities conducted by forest conservation groups in the study villages

Table 11: Information sharing within REDD+ piloting areas (n=90)

Characteristics	Frequency	Percent (%)
How often do you get the information		
Daily	10	11.4
Weekly	15	19.0
Monthly	48	60.8
Yearly	7	8.9
Kind of information		
Forest patrol reports	12	15.6
Forest monitoring reports	1	1.3
Implementation reports	66	83.5

4.4 Community Levels Participation on REDD+ Project

Participation level of the community towards REDD project was assessed using three indicators which were tested using three levels of either being low, medium or high. Results indicated a slightly high level of participation (Fig. 4). This is because the community did not equally involve in all aspects of the project implementation. For example, community involvement in matters concerning forest utilization and management some engaged in project implementation others involved in project monitoring, evaluation, preparation or planning.

Additionally, when it came to household contribution towards REDD project preparation and implementation households contributed differently while others identified priorities, some identified resources, selected their leaders and participated in decision making. Colchester and Ferrari (2007) asserted that participation and community engagement processes are important ways by which community consent can be gained. Furthermore people's involvement in the project also differed as others attended the meetings; others provided labour and materials necessary for project implementation. This implied that the community is engaging in the process of implementation of the project but in different stages. Community engagement in the implementation of REDD+ project means assured sustainability of the project. Peskett *et al.* (2008) added that participation is more likely to influence the equity and success of REDD+ projects.

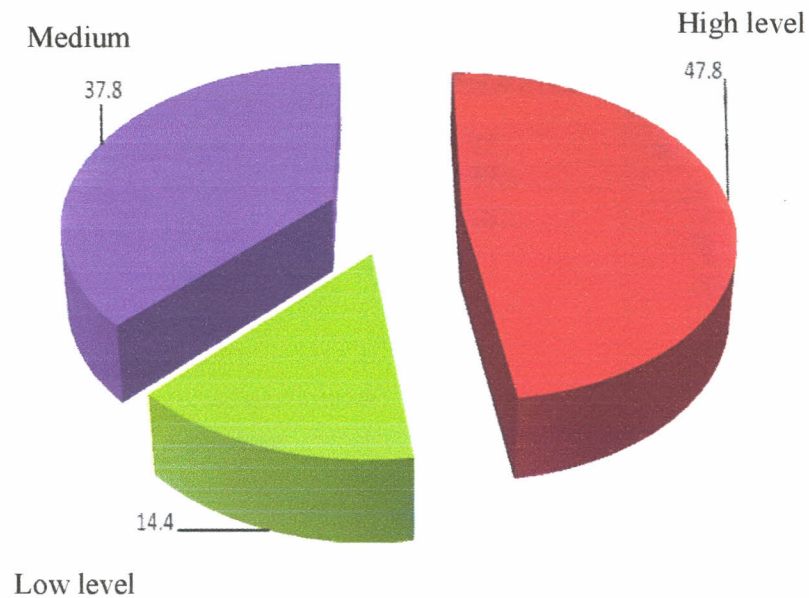


Figure 4: Respondents overall level of participation in the study villages (n=90)

4.5 Community Participation in REDD+ and the Piloting Process

Community participation was further analysed using the chi square to tests the association between the participation, sex, education, marital status and household main occupation. Results in Table 12 revealed that there was no significant relationship between participation and marital status, household main occupation, sex and education of the respondents.

This implied that REDD+ initiative involved everyone despite their levels of education, their sex orientation, their occupation or marital status. The advantage is that when everyone engages in a community project, a sense of belonging is enhanced thus project protection and sustainability. According TNRF (2011) participation in REDD+ is a right in itself and helps realize other rights. This is because participation helps in creating accountability, promotes sustainability, enhances effectiveness, and creates awareness and legitimacy.

Table 12: Association between participation and background variables (n = 90)

Characteristics	Indicator	Response Participation in %		X ²	P-value
		Yes	No		
Background variables					
Marital status	Single	11.1	4.4	3.468 ^{ns}	0.483
	Married	52.2	16.6		
	Divorced	1.1	2.2		
	Separated	1.1	0		
	Widowed	7.7	3.3		
	Total	73.2	26.5		
House hold main occupation	Formal employment	4.4	0	3.629 ^{ns}	0.163
	Agriculture	50	15.5		
	Business	18.8	11.1		
	Total	73.2	26.6		
Sex	Male	46.6	12.2	3.031 ^{ns}	0.082
	Female	26.6	14.4		
	Total	73.2	26.6		
Household respondent years spent in school (education)	Three years	8.8	2.2	1.974 ^{ns}	0.740
	Seven years	13.3	4.4		
	Nine years	15.5	8.8		
	10years	10	2.2		
	11years	25.5	8.8		
	Total	73.1	26.4		

ns= not significant

4.6 Attitude of the Communities on REDD+ Initiatives

Issues of community attitude towards REDD+ project have been assessed using the likert scale choices grouped into two sets satisfied and dissatisfied in the first set, agree and disagree in the second set. The results in table 13 therefore indicated that 87.8% of the respondents were satisfied with the conservation measures. Conservation measures that were mentioned during focus group discussion were; control of the illegal harvest of forest products, limit of farming activities in the forest land and forest fire patrols. The respondents claimed that their forests status have improved since the introduction of these conservation measures.

Furthermore, results revealed that 74% of the community members had a positive attitude toward REDD+ because they were satisfied with way REDD+ is conducting its activities. 82.3% were also satisfied with the way their community forests are being managed (Table 13). In the focus group discussions, respondents agreed that the community is involved in the planning, implementation and evaluation of REDD+ initiative more often. Mr. Juma Awesu (official of forest conservation committees) said, “We are involved in the daily planning and implementation of REDD+ activities. For example, my fellow village mates and I usually patrol the forest; we have a patrol schedule that helps us identify those on duty daily. We feel good and power full too because we have developed the schedule ourselves and thus it gives us control of our forests”. This implies that there is grass root participation of the forest dependent communities in forests. Therefore, grass root resources access and control which enhances community ownership of the initiative thus assuring social sustainability and REDD+ sustainability.

Table 13: Respondents attitude towards REDD+ project in the study villages (n= 90)

Characteristics	Satisfied (%)	Dissatisfied (%)
Set one		
1. Forest dependent communities are satisfied with the way forests in their communities are managed.	82.3	17.7
2. Forest dependent communities are satisfied with the way REDD+ is conducting its activities	74.0	26.0
3. Forest dependent communities are satisfied with the developed conservation measures.	87.8	12.2
Set two		
	Agree	Disagree
4. Forest dependent communities agree that REDD+ activities have restricted their access to the forests	42.2	57.8
5. Forest dependent communities agree that REDD+ activities have increased illegal use of forests	11.1	88.9
6. Forest dependent communities agree that REDD+ activities have increased heat in their society	26.6	73.4

Additionally, 7.8% of the respondents disagreed to the fact that the activities of REDD+ have restricted their access to forest resources. Therefore most of the people now collect forest resources in their farmland and the open/community forests, meaning that have adapted to the situation. However, 42.2% agree to the fact that the initiatives' activities have hindered their access to forests as attributed by the lack of an open forest in an area (Table 13). Moreover, 88.9% of the respondents were happy that illegal use of forests resources had been minimised thus improving the status of community forests. 73.4% confirmed that activities conducted by REDD+ initiative have helped cool the temperature in the study areas (Table 13). However, officials of the conservation committees cautioned that the initiative need to speed up the payment process further delays may lead to demoralization of the community members involving in REDD+ implementation.

4.6.1 Community attitude as measured by attitude index scale

The respondents overall attitude towards REDD+ project is favourable, results in Table 14 indicated that 77(85.6%) of the respondents, had a favourable attitude (that is, they scored 13 out of 24) while 13(14.4%) respondents had unfavourable attitude (that is, they scored 1 to 12). Since the study was testing the attitude of the respondents on REDD+, the study only captured responses that were either a positive or negative. The results above imply that the overall attitude of the community towards REDD+ and the piloting process was favourable.

Table 14: Community overall attitude in the study areas (n=90)

Characteristics	Frequency	Percent
Attitude scores		
Unfavourable attitude	13	14.4
Favourable attitude	77	85.6

4.6.2 Respondents attitude towards REDD+ by sex category

Respondents attitude towards REDD project by sex categories is shown in Table 15, results indicated that the total proportion of male respondents who had a favourable attitude towards REDD+ project was 50% and was higher than that of female respondents 35.6% because interviewed men were more than women interviewed . Results further indicated that there is no significant association between sex category and attitude towards REDD+ project.

Table 15: Association respondents attitude towards REDD+ by sex category (n =90)

Characteristics	Overall attitude group (%)		X ²	P-value
	Unfavourable	Favourable		
Sex of respondents				
Male	8.9	50.0	0.044 ^{ns}	0.834
Female	5.6	35.6		

ns =not significant

CHAPTER FIVE

5.0 CONCLUSIONS AND RECOMMENDATIONS

5.1 Conclusions

This study was conducted to assess the community perception and to determine the social sustainability of REDD+ piloting process in Zanzibar Islands specifically by determining; whether there are forests reserves in the study area, there is community awareness towards REDD+ and the piloting process, communities participation in REDD+ initiative piloting process and their attitude towards REDD+ piloting process. The findings indicate that the communities in Zanzibar island have positive attitude and perceptions towards REDD+ initiatives. this observation could be as a result of the approach used by the pilot NGO in the implemetation of the project activities. This was based on the act that the approach used by CARE ensured that all members were equally involved. The involvement was irrespective of their sex, occupation, level of education or state of marriage through sensitization programs which covered the initiatives' scope, objectives,goals and dirrection.

Additionally, the approach have facilitated high levels of community awareness and participartion. The awareness and participation indexes have indicated high levels of participation and awareness. According to Peskett *et al.* (2008) participation is more likely to influence the equity and success of REDD+ projects. In this regard, the community will continue involving in the implementation of REDD+ because they are familiar with the initiative thus ensuring projects' social sustainability. The approaches also managed to transform the attitude of the community members on conservation practices in their society from negative to possitive. For example, the fact that before

REDD+ started operating farmers would practice small scale agriculture in the forest land.

Therefore, the theory of perception in action by Gibson (2002) hold true for the reason that forest dependent communities have full control in the implementation of REDD+ in their localities. Their attitude highly affects the initiative trend. However, since they have a favourable/positive attitude towards the initiative, the likelihood that they will continue involving in the implementation of the initiative is guaranteed. because of the efforts the initiative put towards preparing the mass into readiness activities. Mass preparation included community mobilization for awareness raising, opinion changing and community involvement thus ensuring social sustainability of the initiative REDD+ in the target communities.

5.2 Recommendations

REDD+ should ensure equal distribution of community forests benefits especially to those communities lacking primary or open forests to which they access their daily forests resources especially fuel wood and other non timber forest resources.

Beneficiary communities should also be capacitated to be in control of their own development with minimal back stop support from REDD+ project team especially on issues concerning management of forest reserves to facilitate social sustainability of the initiative.

Continuous massive sensitisation, awareness campaigns and comprehensive mobilization of the entire members of the local communities is vital to solicit community's willingness to fully participate in REDD+.

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APPENDICIES

Appendix 1: Household's Questionnaire

SOKOINE UNIVERSITY OF AGRICULTURE

Development Studies Institute

Household's Questionnaire

*Topic: REDD+ and the Piloting Process: The community Perception. A case of
Zanzibar Islands*

INTRODUCTION

01. Tool number

03. District.....04. Shehia.....

05. Village.....07. Date.....

Section A : Household Characteristics, composition, agriculture and forest use

		A1 ¹⁾	A2 ²⁾	A3	A4a ³⁾	A5 ⁵⁾	A6
ID	Position in HH	Sex	Marital status	Age (yrs.)	Education (yrs) spent in school	Main occupation	How long have you lived here (no of yrs.)
1	Head of HH						
2	Spouse						
3	HH Representative						

A1. 1=male; 2=female

A2. 1= single; 2=married; 3=divorced; 4=separated; 5=widowed; 6=cohabiting

A3. 1= dropped in STD 3; 2= 7 years; 3=9 years; 4= 10 years; 5= 11 years; 6=

higher education (college/university)

A5. 1= formal employment; 2= agriculture; 3= business;

I. Land

A7a. Do you own land? 1= Yes, 2=No

A7b. How did you obtain it?

A7c. How many acres?

A7d. Is it adequate?

A7f. Is your land located near the forest that is targeted by REDD? 1= Yes, 2= No

A13	What is the most important source(s) of energy for cooking?	Rank 1 ²⁾	Rank 2	Rank 3

1=electricity; 2=gas; 3=kerosene; 4=charcoal; 5=bought fuel wood; 6= collected fuel wood

A13a. Where is fuel wood collected from?

II. Forest Resource Use

A14. Is there a forest in your community? 1= Yes; 2= No

A15. How far is it in minutes (walking) from your house to the edge of the nearest forest that you often use?

A16. Are you allowed to get resources from this forest? 1= Yes; 2= No

A17. Which of the following resources are mostly used in this society?

1= Fuel wood, 2= poles and timber, 3= charcoal, 4= ropes

A18a. Where are these resources collected from?

1= primary forest; 2= secondary forest; 3= mix

A18c. Are the resources collected for sale or for own use? If they are for sale indicate the price.

1=own use; 2=for sale; 3=mix. Price in (Tsh).....

Section B: Community Awareness and Participation Towards Redd+ Piloting

Process

I. Awareness

B1. Do you know REDD+

B1a Are you aware of the role forests play in climate change? 1=Yes; 2=No

B1b. If 'yes', what impact that you know does deforestation cause on climate change?

B2. Do you know any forest management group in your community? 1=Yes; 2=No

B3. If 'yes', please indicate the name of the group and when it started working in your area: NameYear

B4. How did you come to know about the group?

1=Village Meeting; 2=Leaders; 3=Media; 4= Letters; 5= Others

(Mention).....

B5. what activities does the group do?

.....
.....

B6. Do you get information about forest management progress from this group?

1=Yes; 2=No

B7a. If yes, how often do you get this information?

1= Daily; 2= Weekly; 3= Monthly; 4= Yearly; 5=others, mention

.....

B7b. What kind of information do you get from this group?

.....
.....

B8. Since the group started working what can you say about the overall status of the forest managed by the group?

1= Very degraded; 2= Degraded; 3= Acceptable; 4= Good state;

5= Very good state

B9: Does the group allow you to utilize all resources in the forest? 1=Yes; 2=No

B9a. If 'no', which resources are you not allowed to use and why? -

.....

Participation

B10. Is there any member of your household who is involved in this group?

1=Yes; 2=No

B10a. Who does the group give or involve mostly in its activities?
 1= children only; 2=youths only; 3=the elderly only; 4=women only; 5=men only;
 6= mix;

B11. When does the group involve the community in matters concerning forest utilization and management (Especially in its activities?)

1=in preparation; 2=in planning; 3=in implementation; 4=in monitoring;

5=evaluation; 6=others, mention.....

B12. How are the people involved in the group activities? Through:

1=attending village meetings; 2=community contribution (cash); 3=labor force provision; 4= material contribution; 5= others.....

Section C: Community attitude towards redd+ piloting process

C1. Are you satisfied with the way REDD+ is conducting its activities?

1 Very dissatisfied	2 Somewhat dissatisfied	3 Somewhat satisfied	4 Very satisfied

C2. What conservation measures has REDD+ developed on your community forests?

No		Response ¹⁾
1	Controlling harvest of forest products	
2	Limiting farm land in the forest	
3	Protecting some areas in the forest	
4	Placing guards to control illegal use of the forest	
5	Other (please specify):	

C3. Have these conservation measures affected the way you use forests resources?

1 Not at all	2 Not so much	3 Quite a lot	4 Very much

C4. How satisfied are you with these developed conservation measures?

1 Very dissatisfied	2 Somewhat dissatisfied	3 Somewhat satisfied	4 Very satisfied

C5. Are you satisfied with the way forests of your community are managed?

1 Very dissatisfied	2 Somewhat dissatisfied	3 Somewhat satisfied	4 Very satisfied

C6. How would you rate your access to and use of forest products (fuel wood, poles & timber, charcoal) today compared to five years ago?

1 Much reduced	2 Reduced	3 Increased	4 Much increased

C7. Do you agree that REDD+ activities have restricted your access to the forest?

1 Disagree	2 Disagree somewhat	3 Agree somewhat	4 Agree

C8. Do you agree that REDD+ activities have increased illegal use of forests?

1 Disagree	2 Disagree somewhat	3 Agree somewhat	4 Agree

C9. Do you agree that REDD+ activities have helped your household increase income?

1 disagree	2 somewhat disagree	3 agree somewhat	4 agree

C10. Do you agree that REDD+ activities have increased heat in your society?

1 Disagree	2 disagree somewhat	3 agree somewhat	4 agree

END = THANK YOU

Appendix 2: Focus group discussion checklist

1. What are the major problems experienced by forest dependent communities?
2. What problems are associated with forest conservation practices?
3. How often does REDD team visit your community?
4. Does communication methods employed by REDD team effective?
5. How do forest dependent communities involve in REDD activities?
6. When are they involved?
7. Do you think the people are satisfied with the activities REDD does?
8. Are you satisfied with the way REDD is being implemented?
9. What are the advantages associated with REDD initiative?
10. What could be the disadvantages?
11. Does the REDD team support you in realising the advantages the initiative has?

THE END; THANK YOU FOR YOUR COOPERATION