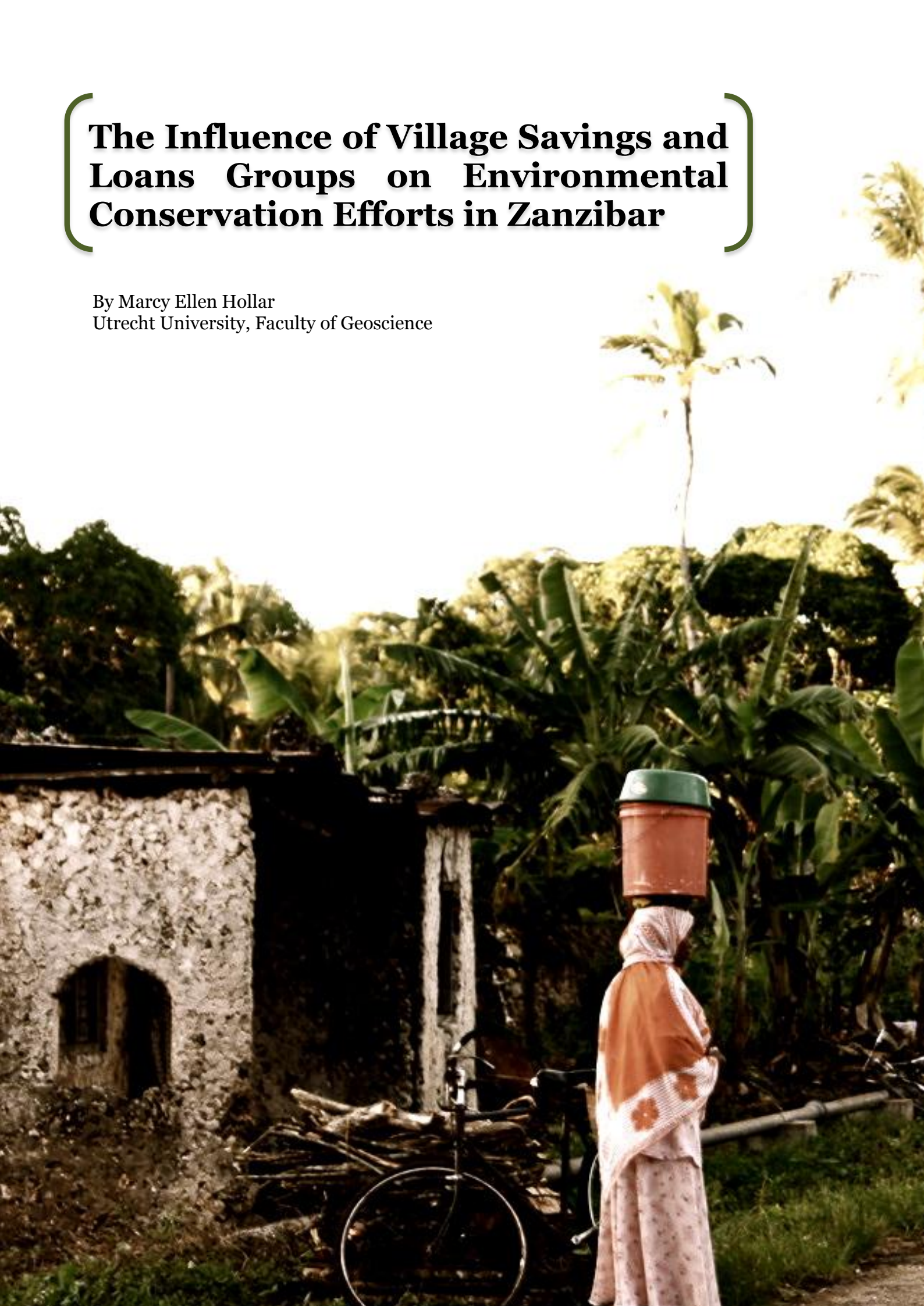


The Influence of Village Savings and Loans Groups on Environmental Conservation Efforts in Zanzibar

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Abstract of Thesis Entitled

“The Influence of Village Savings and Loans Groups on Environmental Conservation Efforts in Zanzibar”

Submitted by

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For the degree of Master of Science
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In August 2011

Economic development plays a unique role in the rural areas of Zanzibar, influencing the local community's dependency on the forest for livelihood strategies. The implementation of Village Savings and Loans (VSLs) groups promotes income generation as a means to build savings, increase local investment and provide for enhanced capabilities of its participants to reach their desired state of well-being. As VSL groups are introduced they expand the financial opportunities of their participants and increase their economic responsibility, due to the heightened need to access additional sources of income to meet VSL related commitments. The exploitation of forest resources for income generation contributes to deforestation and forest degradation that threatens not only the ecosystems themselves, but also the livelihood options of future generations.

In order to promote sustainable practices that also allow for continued enhancement of capabilities, the future strategies of the projects should recognize the key variables that influence the VSL members' interaction with the forest. The unique geographic settings of each village determine profitable market opportunities such as the tourism industry. Additionally, forest distance and density help to determine of higher environmental need. Seasonal variations in market supply and demand also affect success of income generating activities (IGAs), and should be reflected in IGA trainings by selecting a set of IGAs that would provide a consistent and reliable income throughout the year. Organizational communication, collaboration and presence, help to provide uniform understanding and sustainable enforcement of environmental management. At the center of all considerations, should be an understanding of the VSL group activities and the variations within the members as defined by savings behavior, loan purpose, role and membership

length.

The overlap of the WEZA and HIMA projects, through VSL groups, provides a key prospect for creating strategies that compliment and promote sustainability in reaching their individual goals. This provides the opportunity to influence the daily habits and behaviors of the participants, particularly in regards to their interaction with the forests.

Keywords: forests, economic development, capabilities, sustainability



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by

Marcy Ellen Hollar

A thesis submitted in partial fulfillment of the requirements
for the Degree of Master of Science
at Utrecht University, Faculty of Geosciences
and in cooperation with CARE International.

August 2011
Supervisor: Dr. Maggi Leung

DECLARATION

I declare that the thesis and the research work thereof represents my own work, except where due acknowledgement is made, and that it has not been previously included in a thesis, dissertation or report submitted to this University or to any other institution for a degree, diploma or other qualifications. This research has been carried out in collaboration with CARE International, via the sub-office in Zanzibar, Tanzania.

ACKNOWLEDGMENTS

This thesis documents the observations, collected data, and experiences gathered during a 3-month research conducted as part of my MSc International Development Studies programme with Utrecht University. The research was conducted in cooperation with a host organization, CARE International, via the sub-office in Zanzibar. The findings of this research assess how economic development interventions influence environmental conservation efforts in Zanzibar, Tanzania.

This research would have not been possible without the support and assistance of the CARE Zanzibar team. I would like to express special thanks to Mr. Amour, the senior field director of the HIMA project, who provided the field supervision of this research. I would also like to thank Mr. Soud Jumah for kindly taking the time to introduce me to Zanzibar, the projects and the research population. Mr. Jumah constantly provided his kind advice, participated in informative and stimulating discussions and was always willing and ready to lend a helping hand. I would like to kindly acknowledge the many translators who worked long and hard hours to assist in the completion of the surveys, interviews and focus group discussions.

Furthermore, I would like to thank Dr. Maggi Leung who acted as the Utrecht University supervisor, and who provided essential guidance for laying a strong foundation for the research. Her supervision during the research helped in coping with methodology changes and handling information gaps.

Last but certainly not least, I would like to sincerely thank the VSL members and Sheha leaders who opened their hearts and their homes for the discussion of the research topic.

Thank you!

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*Asante Sana!*

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## **ABBREVIATIONS**

|        |                                                       |
|--------|-------------------------------------------------------|
| ASCA   | Accumulating Savings and Credit Association           |
| CCB    | Climate, Community and Biodiversity                   |
| CFM    | Community Forest Management                           |
| CSOs   | Community Service Organization                        |
| ER     | Expected Results                                      |
| FAWE   | Forum for African Women Educationalists               |
| GDP    | Gross Domestic Product                                |
| HIMA   | Hifadhi ya Misitu ya Asiti                            |
| IGAs   | Income Generating Activity                            |
| JOCDO  | Jozani Credit and Development Organization            |
| MDGs   | Millennium Development Goals                          |
| MFI    | Micro-Finance Institutions                            |
| NGO    | Non-Governmental Organization                         |
| PESACA | Pemba Saving and Credit Association                   |
| REDD   | Reducing Emissions from Deforestation and Degradation |
| TAMWA  | Tanzania Media Women Association                      |
| Tsh    | Tanzanian Shilling                                    |
| UNDP   | United Nations Development Programme                  |
| USD    | United States Dollar                                  |
| VCC    | Village Conservation Committee                        |
| VSL    | Village Loans & Savings                               |
| WEZA   | Women's Empowerment in Zanzibar                       |

## **1. INTRODUCTION**

Sustainable development interventions integrate economic, social and environmental development strategies to create synergy in building and strengthening human capabilities. Interventions often focus on economic growth as a key factor in achieving poverty reduction. However, economic growth is only one of many key factors in laying the pathway out of poverty. Human development requires a more holistic approach that promotes the ability of individuals to access the services and materials they both want and need in order to lead enjoyable and happy lives (Delamonica & Mehrotra, 2006). The recognition of environmental health and management is required to create interventions and to prepare for long-term development.

This research examines two projects in order to determine the influence of an economic development intervention on environmental conservation efforts. Both projects are implemented under the organization of CARE International and located in Zanzibar, Tanzania. The first project, 'Women's Empowerment in Zanzibar' (WEZA), is a microfinance intervention that implements a strategy of Village Savings and Loans groups (VSLs) as a means to boost economic and social empowerment. The second project, 'Hifadhi ya Misitu ya Asiti' (HIMA) focuses on environmental conservation through capacity building of environmental management organizations, local education and training and the creation of key strategies which shall be replicated internationally.

The overlapping component of the two projects is the tool of Village Savings and Loans groups. The WEZA project utilizes VSLs to promote the social and economic empowerment by augmenting income opportunities and building community support and social justice for gender issues. The HIMA project uses VSL groups as an access point to the community for raising awareness and building strategies for environmental conservation and 'do-no-harm' policies.

VSL groups are a dominant component of the involved communities, having considerable influence on local markets, social dynamics and environmental interaction. As the HIMA and WEZA continue their work in Zanzibar, it is important to recognize, observe, measure and analyze their interaction, in order for more holistic and sustainable strategies to be created, with the application of acquired knowledge on how to reach common goals of human development.

## **1.1 PROBLEM STATEMENT**

Synergy between economic, social and environmental factors of development creates a comprehensive approach to building and strengthening the capabilities of the communities. With this in mind, a knowledge gap was identified in the preparation for this research with regard to the manner in which VSL groups influence environmental sustainability. Previous research implemented by CARE in Zanzibar concentrated on economic influence of the WEZA project and the social impact of the HIMA project, omitting the influence of the VSLs on the environment. With a view to contributing to the long-term sustainability of these interventions, this research aims to identify variables of the VSL group functions that influence efforts to achieve environmental conservation.

Zanzibar is noted as one of the top 200 biodiversity 'hotspots' of the world, however, its environment is afflicted with severe deforestation, attributed to the dependence on forest resources of the local population (CARE, 2010). Rural communities of Zanzibar traditionally use timber and non-timber products for self-consumption and also as income generating activities (IGAs), exemplified by the production and sale of charcoal and the collection and sale of firewood.

Income generating activities are a dominant and common feature of the HIMA and WEZA projects in their work with VSL groups. For the purpose of this study, IGAs are defined as income generating activities that are practiced in addition to the main occupation of the individual. The IGAs generate the needed weekly income used to purchase the shares, which are obligatory for VSL membership, and for the repayment of any loans that may have been taken out. The HIMA project works directly with over 750 members of VSL groups to raise awareness and educate about the conservation of forests. A key focus of the intervention is the exploration and development of alternative income generating activities in order to reduce forest dependency. The WEZA project targets rural women in areas of Zanzibar, through the establishment of VSL groups. The project develops strategies for the groups and promotes education about the establishment and practice of IGAs, which will contribute to social empowerment. IGAs were chosen as a key focus of this study, as they are a prevalent aspect determining environmental interaction and also a dominant factor in the functioning of the VSL groups.

## **1.2 RESEARCH OBJECTIVE**

The objective of this research is to identify key variables that indicate how VSL groups influence the environment and how they contribute to efforts to conserve or ‘do no harm’ to forests. The study explores the activities of the VSL groups, with specific attention to the income generating activities of their members, so that strategies may be created that support sustainable environmental conservation and awareness for VSL groups.

## **1.3 CENTRAL RESEARCH QUESTION**

The following question is the central focus of this study:

**Main Research Question:** How do VSL groups interact with and influence the conservation of the forests?

### **1.3.1 Sub-Questions**

In order to answer the main research question, this study explores the below sub-questions from the perspective of the following stakeholders: VSL members and leaders, community leaders, CARE representatives, associated organization representatives and government officials.

**Sub-Question 1:** What are the current IGAs of VSL members?

The study identifies the extent of which different IGAs are being chosen and practiced and which of these current IGAs involve the forests.

**Sub-Question 2:** How do members choose IGAs in which they participate?

The following factors are explored in order to identify key variables, which influence the choice and practice of IGAs: community factors, economic factors, climate change, and social factors.

**Sub-Question 3:** What have been the changes in IGAs of the members since joining the VSL groups?

In answering this, the study identifies trends that define patterns of change.

## **2. CONTEXTUAL FRAMEWORK**

Examples of local-economic interventions and environmental conservation efforts are dispersed over the geographical area of rural Zanzibar. This research will focus specifically on interventions conducted by CARE Zanzibar and their affiliated partners, specifically in the Kusini (South) District of the island of Unguja. Before examining the specific interventions, it is important to first understand the embedded surroundings including the geographic framework, environmental setting, economic structure and social backdrop.

### **2.1 GEOGRAPHICAL CONTEXT**

The United Republic of Tanzania is made up of mainland Tanganyika and the archipelago of Zanzibar, which united in 1964 after Zanzibar's independence in 1963. The country is situated in eastern Africa and has a surface area of 947,300 square kilometers, 2,461 of which make up the islands of Zanzibar (BBC, 2010). Zanzibar is made up of two main islands, Unguja and Pemba, and about 50 smaller islands, which are located about 30 kilometers to the east of mainland Tanzania coastline (Department of Environment, 2009). Stone Town is the capital of Zanzibar and is located on the island of Unguja. The islands are divided into regions, three on Unguja and two on Pemba (World Bank, 2010).

Zanzibar and mainland Tanzania have a political union; however the islands have their own parliament and president (BBC, 2010). This is important to note for this research, as the laws of Zanzibar are specific to the Zanzibar islands, and not representative of the entire country of Tanzania.

Map 2.1 A Map of Zanzibar



(Department of Environment, 2009)

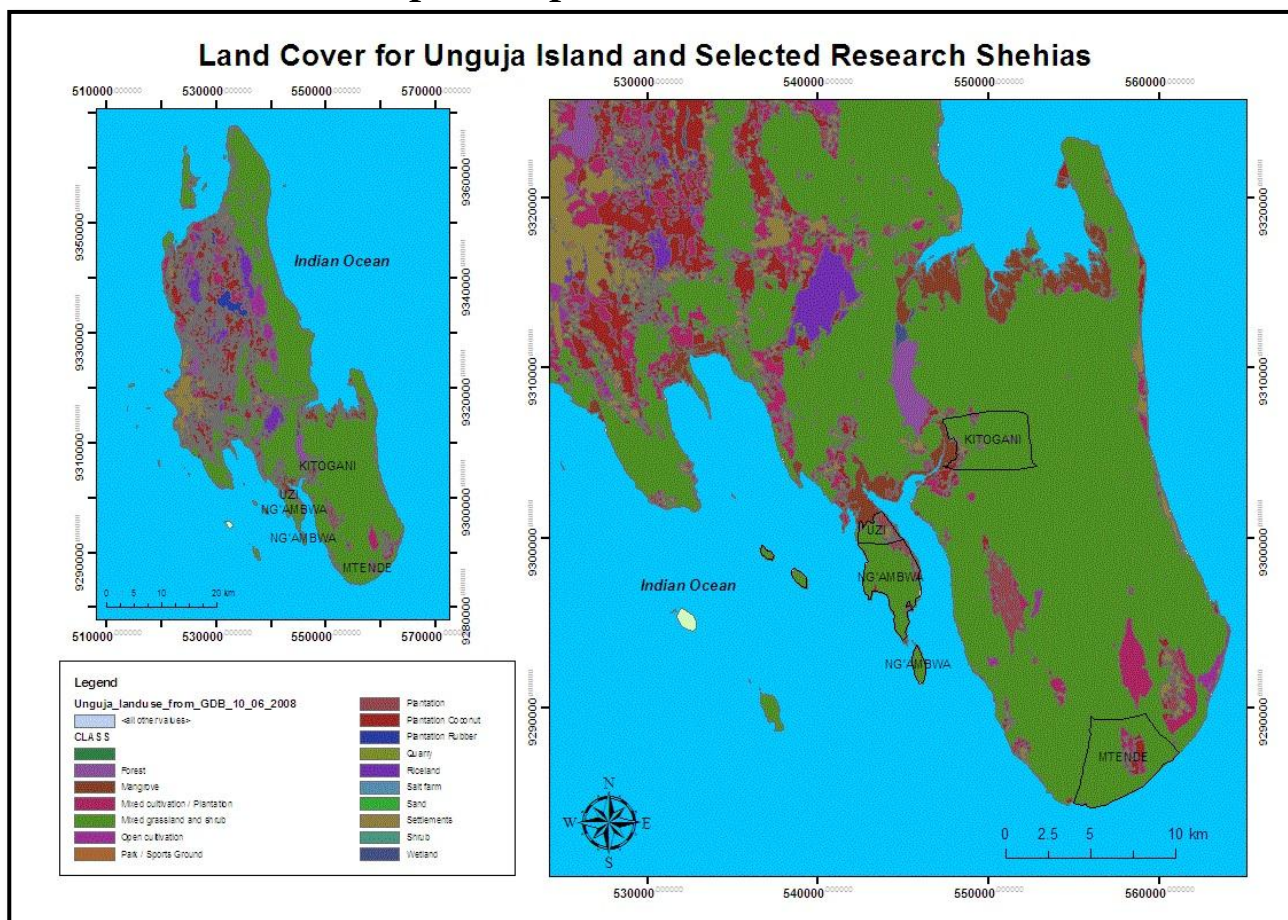
## 2.2 RESEARCH LOCATION

It is important to not only understand the national context of Zanzibar but also the context of the unique villages, locally known as ‘shehias’, where this research took place. The three research locations were located in the Kusini District (Southern District) on the



island of Unguja. The methodology for the choice of the three research sites will be described in Chapter 5 of this thesis. The map below depicts the three research locations, which are identified by black borders and their written names. This map depicts the research sites in comparison with the types of land cover, which coincide with the selected villages.

**Map 2.2 Map of Research Location**



(Department of Forestry, 2008)<sup>1</sup>

The research location of Kitogani is a small rural village in the central and northern area of the Kusini District. This village is located on the border of the Jozani National Forest, which is a protected zone dedicated to environmental conservation. The tourism sector influences this village due to visitors who travel to see the Red Colobus Monkeys, which are famously located at the National Park (The Society for Natural Resources Conservation and Development, 2010). This provides unique market opportunities for the sale of handicrafts and other local goods. At the time of the research, Kitogani comprised of 692

<sup>1</sup> This map was produced by the author by way of GIS mapping software, which incorporated the cited data from the Zanzibar Department of Forestry



households and a total population of 1180 inhabitants.

Mtende is located on the southeast coastal zone of Kusini District. The village is located on the border of a coral rag forest, which has experienced extensive deforestation. This village has also experienced large population growth and is the most densely populated village of the three sampling sites. At the time of the research, Mtende had a total of 335 houses with a total of 1460 inhabitants.

Uzi Island's community is located on the southwest coastal zone of Unguja island. Although Uzi is technically a peninsula, it is often referred to as an island due to intermittent accessibility determined by high and low tide. As the tide comes in, it covers the only road that connects the peninsula to the rest of Unguja Island. This natural setting creates a unique socio-economic environment of seclusion. Main contributions to the local economy include fishing and seaweed farming.

## **2.3 ENVIRONMENTAL CONTEXT**

Coral rag forest, lush mangrove forests and coastline dominate Zanzibar's natural environment. The coral rag forests are estimated to cover about 40% of the total land area on Unguja and Pemba, whereas the mangroves cover approximately 8%. Zanzibar's topography can be described by its sandy and coralline soils. The climate is tropical and is defined by northeast and southeast monsoon winds that bring heavy rains from April to May and short rains from November to December. The average temperature is 26°C with small variations. Average rainfall is about 1628mm per annum (The Society for Natural Resources Conservation and Development, 2010). These combined conditions make Zanzibar a fertile setting that allows for the environment to be used for livelihood strategies.

The forests of the Kusini District, where this research takes place, provide many livelihood resources for its communities including both timber and non-timber products. Timber products, which are exemplified in this research, include firewood, charcoal and building materials. Examples of non-timber products that come from the forest include fish, seaweed and ropes made from coconuts. Due to high dependence of the population on these forest products for self-use and economic exploitation, the natural resources are under pressure. The forests are important to protect the natural coastlines by managing erosion and flooding and filtering pollutants and sedimentation (Department of Environment, 2009). The communities of Unguja have a high demand for firewood and

building materials. Land is frequently cleared for agriculture, development and settlements. Coral rag forests experience higher exploitation of firewood due to the ease of access and abundance of resources, whereas mangroves are more frequently used for charcoal production (The Society for Natural Resources Conservation and Development, 2010).

## **2.4 ECONOMIC CONTEXT**

Zanzibar's economy has experienced impressive macroeconomic growth, resulting in a near doubling of the Real GDP between 2002 and 2008. However, this economic growth has had little impact on poverty reduction. The most recent figure estimates Tsh 639,000 or USD 534 per year capita income, which is equivalent to only USD 1.5 per day. As this figure is an average estimate, it does not take into account the variation in distribution of this income amongst the population (UNDP, 2009).

The United Nations Development Programme (UNDP) in 2009 highlights the agricultural sector, due to its strong forward and backward linkages with other sectors of the economy. Consequently, when there are fluctuations in agricultural performance, there is a direct impact on the country's overall economic performance. This sector is responsible for representing 24.3% of the Kusini economy (Department of Environment, 2009). Crop farming, which is practiced in this study by the surveyed VSL members, is generally practiced on small scales, with mixed cropping methods. In recent years, the government has promoted the use of modern farming techniques and technologies, which has positively impacted the growth of the sector (UNDP, 2009).

Fishing also contributes to 28.6% of the economy in the Kusini District (Department of Environment, 2009). Local communities employ traditional fishing methods, which are seen by some as a limitation in the growth of the industry, as modern fishing techniques could increase catch numbers and reduce required time.

Seaweed farming accounts for 23.2% of the Kusini District's economy (Department of Environment, 2009) and was first introduced to Zanzibar in 1984 by Professor Mshigeni from the University of Dar es Salaam. The industry was initially successful, but due to market restrictions and price fluctuations it has recently become less profitable. This sector supplements fishing, livestock and agricultural activities and is dominated by women in the coastal areas, which was revealed in a study showing that 88% of seaweed growers were female (Department of Environment, 2009).

Tourism accounts for about 25% of the GDP of Zanzibar (UNDP, 2009) and 13.8% of the Kusini District's economy (Department of Environment, 2009), but does not generate a comparative amount of employment on the island. This sector has the potential for generating sufficient revenue to finance economic growth in other sectors that do provide employment opportunities. The island is critiqued for its lack of quality amenities, and falls behind the growth and accomplishments of the Indian Ocean islands of Mauritius and Seychelles, which are the only two Sub-Saharan African nations that are in the group of High Human Development countries as determined by UNDP (2009). Potential income generating activities attributed to this sector include tour guiding, selling local products, the sale of handicrafts and hotel employment (Department of Environment, 2009). This is exemplified in this research, as the tourism destination of Jozani National Forest is located adjacent to the sampling village of Kitogani and directly affects the market opportunities for the local population.

When evaluating the economic context of Zanzibar, it is important to also consider household level economics. The UNDP 2009 report determined the food poverty line in Zanzibar to be established at Tsh 12, 573. The Basic Needs Poverty Line was estimated to be Tsh 20,185. The Head Count Index can then be applied to determine the percentage of the population whose consumption level is below the determined poverty lines. In the Kusini District 53.8% was below the basic needs line and 9.7% is below the food poverty line (UNDP, 2009).

## **2.5 SOCIAL CONTEXT**

The following section will detail social aspects of Zanzibar that relate directly to this research, namely health, education and the status of women. The islands of Zanzibar have a population of 982,000. The population primarily speaks Swahili, followed by English and Arabic. Additionally, the population predominately practices the Islamic religion (BBC, 2010).

The Millennium Declaration and Development Goals (MDGs), endorsed by The United Republic of Tanzania in September 2000, are part of an international agreement led by the General Assembly of the United Nations. The agreement set a framework of time-bound goals to be assessed and monitored from the period of 1990 to 2015. These goals focus on areas of human development that are also relevant to this study, which include important points of social context. These goals, as well as the indicators of Zanzibar's progress, are

depicted in the following table (MDG, 2008).

**Table 2.1 2008 Millennium Development Goal Report**

| Zanzibar                                                |      |                |        |            |      |                     |
|---------------------------------------------------------|------|----------------|--------|------------|------|---------------------|
| MDG                                                     | 1990 | 2000           | 2008   |            | 2015 | Glance              |
|                                                         |      |                | Actual | Expected** |      |                     |
| Proportion of population below basic needs poverty line | 60   | -              | 51     | 38.4       | 30   | Unlikely to achieve |
| Under-5 Underweight (%)                                 | 39.9 | 25.8           | 7.3    | 14.3       | 20.0 | Achivable           |
| Under-5 Stunted (%)                                     | 47.9 | 35.8<br>(1999) | 23.1   | 30.6       | 23.9 | Achivable           |
| Primary school net enrollment rate                      | 50.9 | 67.0           | 83.4   | 86.3       | 100  | Achivable           |
| Under-five mortality rate (per 1,000 live births)       | 202  | 14.1           | 101    | 105        | 67   | Achivable           |
| Infant mortality rate (per 1,000 live births)           | 120  | 89             | 61     | 62.4       | 40   | Achivable           |
| Maternal Mortality Rate (per 100,000 live births)       | 377  | 323            | 473    | 173        | 94   | Unlikely to achieve |
| Births attended by skilled health personnel (%)         | 37   | -              | 47     | 75.2       | 90   | Unlikely to achieve |
| HIV prevalence, 15-24 years                             | 0.7  | -              | 0.6    | <0.7       | <0.7 | Achivable           |
| Access to potable water :% of rural population          | 46   | 46             | 59     | 65.4       | 73   | Achivable           |
| Access to potable water :% of urban population          | 68   | 90             | 83     | 79.5       | 84   | Achivable           |

\*\* = Computed as % passage time thus 2008 is equivalent to 18 years or 72% time that has elapsed

Unlikely to achieve
 Likely to achieve
 Achivable

(United Republic of Tanzania, 2008)

### 2.5.1 Health and Life Expectancy

Health is a marker of the overall well-being of a person, and subsequently, that individual's productivity in society. According to the UNDP Human Development Report (2009), the children of the island of Unguja, where this research takes place, were reported to be 18% stunted, 6.7% wasted and 17% underweight. Additionally, the 2008 records show alarming statistics reporting a rate of 422 maternal deaths per 1000 births. This is paired with the report that an average of only 44.5 of 1000 live births are attended by a skilled health professional. To reach these goals, the maternal mortality ratio should be at 170/1000 live births, and 90/1000 births should be attended by a professional health worker (UNDP, 2009). These alarming numbers prove relevant for this research as family health directly impacts the need for financial capabilities. This is exemplified by VSL members in this research reported taking out loans for the purpose of buying medicine and food.

Life expectancy also indicates a community's well-being due to the amount of effort, time, money and emotion that comes along with grieving and handling death. According to the UNDP 2009 report, the 2008 average life expectancy (with HIV Assumption) in Zanzibar is 56.5 years, while the life expectancy in the Kusini District is 58.7 years. The Millennium Development Goal (MDG) to reduce the under-five mortality rate by two thirds is on track, with the 2008 MDG report stating the rate of Zanzibar to be 67 per 1000 live births (UNDP, 2009).

### **2.5.2 Education**

The ability to obtain and utilize knowledge helps to determine the development of individual skills and capabilities in establishing, achieving and maintaining their personal and professional goals. The second MDG, as agreed upon by the Zanzibar Government, aims to achieve universal primary education by 2015. The country has expressed difficulties in efforts to creating better access, ensure equity and raise the quality of education. Although the gross enrollment ratio for 2008 was 95.7%, the reported pass rate on the island of Unguja was under 50% on average. Lack of proper enrollment ages is also prevalent as the majority of children are only enrolled after the age of 7 years. Children often do not attend school due to their participation in seasonal economic activities, as well as pregnancies and early marriages (UNDP, 2009).

To determine the quality of education, we see that in 2008 class ratios were about 68 pupils per classroom. Furthermore, 91% of the teachers were reportedly formally trained, however the level of education achieved before training for being a teacher was relatively low with more than 50% of the teachers only reaching Form 4. Zanzibar has also been criticized for poor planning of school locations that reduces accessibility. Quality of education is also criticized as being inadequate due to limited funding in science and mathematics (UNDP, 2009).

### **2.5.3 Status of Women in Zanzibar**

Although Zanzibar has many policies and laws to create a supportive environment for women in Zanzibar, many social, political and cultural barriers still stand in the way of achieving gender equality and empowerment. Women are often discriminated in many areas of their lives including economic opportunities, access to education and health care, and participation in decision-making activities (UNDP website, 2010). These factors restrict the empowerment of women to access new opportunities, build their capabilities,

and ultimately reach their valued state of well-being.

Customary practices and laws constrain women, particularly in their ability to access financial services. This might occur when a marriage terminates, and restricts a woman in her ability to access household property. Additionally, when a woman’s father or husband dies, the inheritance will often go to any male heirs and she will consequently receive nothing (Kukla, 2010). Access to loans and credit is limited by institutional requirements, such as owning property (CARE International, 2011). As a result, only 13% of female-headed households have access to credit and only 15% of those who gained access do so through formal channels of cooperatives. In comparison, 38% of male-headed households formally accessed credit (REPOA, 2010).

**Table 2.2 Representation of Women in Decision-making Positions in Zanzibar**

| Years                                   | 2000 |        |       |               | 2006 |        |       |               | 2007 |        |       |               |
|-----------------------------------------|------|--------|-------|---------------|------|--------|-------|---------------|------|--------|-------|---------------|
|                                         | Male | Female | Total | Percent women | Male | Female | Total | Percent women | Male | Female | Total | Percent women |
| Members of the House of Representatives | 60   | 19     | 79    | 24            | 61   | 18     | 79    | 23            | 60   | 18     | 78    | 23            |
| Ministers                               | 11   | 1      | 12    | 8             | 9    | 4      | 13    | 31            | 11   | 3      | 14    | 21            |
| Deputy Ministers                        | 4    | 1      | 5     | 20            | 5    | 1      | 6     | 17            | 4    | 1      | 5     | 20            |
| Principal Secretaries                   | 11   | 1      | 12    | 8             | 14   | 1      | 15    | 7             | 11   | 1      | 12    | 8             |
| Deputy Principal Secretaries            | 7    | 2      | 9     | 22            | 8    | 2      | 10    | 20            | 7    | 2      | 9     | 22            |
| Regional Commissioners                  | 5    | 0      | 5     | 0             | 5    | 0      | 5     | 0             | 5    | 0      | 5     | 0             |
| District Commissioners                  | 9    | 1      | 10    | 10            | 9    | 1      | 10    | 10            | 9    | 1      | 10    | 10            |

(MDG, 2008, p 12)

In Zanzibar there is a high prevalence of abandonment by husbands. This occurs when a man’s primary occupation is to be a fisherman, which requires them to be away for long periods of time. Religious beliefs allow for polygamy, and as a result men find a wife while they are away and decide not to return to their first families. An average of 5 new abandonment cases is reported each week, leaving these wives and mothers vulnerable and at an economic disadvantage (Kukla, 2010).

In Zanzibar, women are under-represented in political and socio-economic decision-making roles (MDG, 2008). This is shown in the above table, which depicts the percentage of women in each sector of the government. These factors together stress the importance of building women up, so that they can increase their capabilities to provide and achieve their goals for themselves and their children. Efforts to do this are exemplified through the WEZA project, which will be further described in Chapter 3.



### **3. ORGANIZATIONAL CONTEXT**

The following section will detail major organizations and projects that directly affect this research, starting with an overview of CARE Zanzibar and followed by the two key interventions, HIMA and WEZA projects.

#### **3.1 CARE ZANZIBAR**

CARE Zanzibar is a sub-office of CARE Tanzania, which functions within the mandate of CARE International. This international organization has a vision to create a “world of hope, tolerance and social justice where poverty has been overcome and people live in dignity and security.” It seeks to serve the poorest of the poor in communities around the world, focusing on the strength of diversity, experience, innovation and responsibility. In order to accomplish this, CARE promotes capacity building, economic development, emergency aid response, policy development and fighting discrimination (CARE International, 2011).

CARE Tanzania began operations focusing on the provision of water, food, sanitation, shelter and health care to 500,000 refugees in response to the 1994 Rwandan refugee crisis. Since then, the country office has expanded its projects to include education, environmental protection and reproductive health (CARE International, 2011).

CARE Zanzibar is comprised of one office on the island of Unguja and one office on the island of Pemba. The CARE Zanzibar office was officially registered as a Civil Society Organization in 2000. It currently implements two projects including the HIMA and WEZA projects, which are focused upon in this study (CARE International, 2011).

#### **3.2 INTERVENTION: THE HIMA PROJECT**

Hifadhi ya Mimitu ya Asili, meaning “conservation of natural forests” in Swahili and more commonly known as HIMA, is a four year project (January 2010 until December 2013) implemented by CARE in Zanzibar. The project aims to reach seven districts of Unguja and Pemba Islands, covering over 27,000 hectares of upland and mangrove forests and targeting forest-dependent communities (CARE, 2010). HIMA looks to explore how carbon finance schemes can be implemented to combat deforestation and promote sustainable forest management practices. (CARE, 2010)



### **3.2.1 Objectives, Expected Results and Activities**

HIMA promotes pro-poor and highlights the angle of gender-equitable approaches to community forest management. The project is run in conjunction with the Government of Zanzibar strategy for Reducing Emissions from Deforestation and Degradation (REDD). It aims to create a strategy that will provide secure property rights, equitable rewards for providing ecosystem services and other livelihood benefits. The REDD strategy will highlight the priorities of Zanzibar in national REDD strategy. HIMA aims to reduce community forestry dependency by assisting with the development of alternative sources of income and livelihood. They have done this through direct support of small grants that support the sustainable establishment and growth of small businesses such as woodlots, vegetable farming, forest and fruits seedling production and handicrafts. The project also seeks to support these IGAs through REDD strategies of carbon financing. Furthermore, it aims to strengthen the capacities of civil society organizations to participate fully in the management of their forest resources (CARE, 2010).

#### **Box 3.1 & 3.2 Explanation of the HIMA project expected results and activities**

##### **Expected results (ER):**

- 1: Reduce greenhouse gas emissions from deforestation and forest degradation.
- 2: Generate local benefits that provide forest-dependent communities with direct, equitable incentives for forest conservation.

##### **Project activities:**

- 1: Develop equitable and effective Community Forest Management (CFM) strategies and formulate a manual that can be utilized to strengthen existing CFM projects
- 2: Strengthen stakeholder capacity of government institutions, community based organizations and local NGOs by conducting long-term professional training and workshops, while ensuring that women play an equal role in the policy and program formulation, execution and monitoring.
- 3: Design and implement replicable, equitable and cost effective REDD strategies.
- 4: Validating carbon, community and biodiversity benefits that can be certified under the Climate, Community and Biodiversity (CCB) Standards and also for carbon accounting and crediting.
- 5: Disseminating lessons learnt, promoting best practices and advocating a pro-poor approach to REDD: especially in those lessons regarding human rights, replicable activities to address forest loss, mechanisms for equitable sharing of benefits, and reducing not only emissions but also poverty.

(adapted from: CARE, 2010)

### **3.2.2 Main Actors**

The governments of Zanzibar and Norway jointly support the HIMA project. The Zanzibar Department for Commercial Crops, Fruit and Forestry is the primary implementing partner. The project itself strengthens and makes use of existing institutions and structures for its implementation. Capacity building of Village Conservation Committees and community based-institutions is a central focus of key relationships. The Community Forest Management (CFM) and Reduced Emissions from Deforestation and Forest Degradation (REDD) are two key actors for collaboration on sustainable and replicable strategies.

## **3.3 INTERVENTION: THE WEZA PROJECT**

The Women Empowerment in Zanzibar (WEZA) is a four year (January 2008 until December 2011) micro-savings intervention that strives for economic empowerment of poor rural women living in Zanzibar. The project also has “a component of social change that addresses the social, cultural and political barriers to women’s empowerment” (Hoogerbrugge, 2010, p.5).

### **3.3.1 Objectives, Expected Results and Activities:**

The overall objective of the project is focused on reducing poverty in the rural areas of Zanzibar and supporting women to increase their incomes and to overcome social, cultural and political barriers to women’s empowerment in Zanzibar. This is implemented through the creation and development of village savings and loans groups (VSL scheme), product development and business training. The project goals are in line with Millennium Development Goals 1 and 3. WEZA aims to reach 6000 rural poor women, composed of 30% of female-headed households; 50% illiterate/literate women and 100% poor and rural women. The following table explains the expected results of the project and the activities that correspond with each ER (Hoogerbrugge, 2010).

### **Box 3.3 & 3.4 Explanation of the WEZA project expected results and activities**

#### **Expected results:**

- 1: At least 300 women's groups, mobilized and successfully implementing VSL scheme.
- 2: 5,000 women undertaking action for social change towards women's empowerment.
- 3: 2,500 women profiting from four new or improved market-driven products.
- 4: Grassroots women's empowerment efforts effectively supported by 60 local and national institutions.

#### **Project activities:**

- 1: Identify women for participation, Identify/train new groups & leaders on methodology selection, planning and management of income generating activities, Provide monthly support/monitoring, Develop business plans
- 2: Social analysis of women, Train/orient leaders, Provide technical support, Support women with project design, fundraising and implementation, Disseminate gender awareness
- 3: Facilitate sub-sector analysis of products, Train women on value addition, Facilitate development of marketing strategies
- 4: Training and technical support to CSOs, Conduct capacity building

(adapted from: Hoogerbrugge, 2010)

### **3.3.2 Main Actors and Relationships:**

CARE Austria and CARE Tanzania work together with the Tanzania Media Women Association (TAMWA) in the implementation of the WEZA Project. In Zanzibar, they also work with three main associates including the Jozani Credit and Development Organization (JOCDO), Pemba Saving and Credit Association (PESACA) and Forum for African Women Educationalists (FAWE). In addition, the project works with several Civil Society Organizations including the government, human rights organizations and law offices (amongst others) (Hoogerbrugge, 2010).

The project is funded with a budget of €1.5 million for the period of January 1st 2008-December 31st 2011 and is currently in the final year of implementation. The European Union, the Government of Austria, CARE Austria and CARE Tanzania provide the funding at the ratios of 50%, 33.33%, 15% and 1.67% respectively (Hoogerbrugge, 2010).

## **3.4 CARE'S VILLAGE AND SAVINGS AND LOAN GROUPS**

The central tool of the WEZA project is CARE's Village Savings and Loan groups. CARE International first developed the VSL model in 1991, where it was first implemented in Niger. It has since developed into a key tool that is based on a participatory and community-based approach to microfinance. Currently CARE has established more than

54,000 VSL groups in 21 African countries, comprising of over 1 million members (Helemore, 2009).

The VSL approach is considered a time-bound accumulating savings and credit association, otherwise known as an ASCA. The groups are comprised of about 30 people who attend meetings weekly. Each group establishes an executive board including a chairperson, secretary, box-keeper, money counter, and three key holders. The groups created and supported by the WEZA project typically have a ratio of about 25 women to 5 men, in order to ensure it as a tool for women's empowerment. WEZA's partnering organizations provide training for these members during the first year of implementation, focusing on group dynamics, governance and money management. Additionally, training on income generating activities helps to support entrepreneurship and economic growth. The end result is that groups are self-managing and can even help in the establishment and training of other groups (Anyango et al, 2007).

A unique characteristic of the CARE VSL model is the "action audit" in which groups determine a date, usually about 12-24 months from the date that the group was established. On this date, the group's financial assets are divided amongst the members in proportion to the amount each member saved. This is otherwise known as the "cycle payout date." This promotes accountability within the groups, as all loans must be paid back in order for the "action audit" to take place. Following the audit, the groups typically re-form and begin a new cycle of saving and lending. Additionally, the idea of accountability and transparency is promoted through the use of a locked box whereby the savings and books are kept. The keys to this box are held by the treasurer and three other members (Anyango et al, 2007).

The members save as a group and self-manage loans for group members. CARE does not provide any direct financial investment to these groups, rather all of the financial capital is built from the savings of the members. At each weekly meeting, members purchase shares. The group, upon the start of a new cycle, sets share values. Groups in this research typically set share values at between 500-1000, with the maximum of 3-5 shares allowed per person per week.

The original VSL model by CARE promoted that loans should be a maximum of three times the person's savings, and should be repaid in monthly installments over three months with an interest of 5%. The VSL groups involved in this study restrict loans to Tsh 50,000 for first time borrowers. If the loan is repaid in a timely manner, the member is

eligible for a larger loan that will be determined by the group. Groups are self-managing and can determine these specifications for loans to suit the needs of their members. In a 2006 study in Zanzibar by Ezra Anyango et al. looking at VSLs established by Care which were each 2+ years old, it was found that 84 percent of the groups had decided to keep the recommended ceiling for determining loan amounts. Some groups decided to extend the amount of time required to pay back the loans to 4 months, and many chose to pay back the loans all at once including interest rather than doing installments (Anyango et al, 2007). As Islamic law prevents interest from being collected on loan repayments, groups alternatively attach a fee. This fee typically is between 3-5% of the loan's value. Loan sizes, in this research, averaged at about Tsh 117,120.

### **3.4.1 Benefits of VSLs**

CARE's VSL model is well reputed for its ability to provide financial services for the poorest of the poor in rural areas, which is a challenge for many other micro-finance models. The very poor and the rural poor are not typically attractive for Microfinance Institutions or commercial financial institutions. This is because traditionally these populations do not accumulate enough money for it to be profitable or affordable for traditional Microfinance Institution structures. Qualitative data from this research supports this reputation, acknowledging that the model provides a solution for the un-met financial needs of the rural poor. In an interview with a VSL member (conducted within this study), the member stated that "before joining the VSL group [she] and [her] neighbors would hide their household savings in their houses, typically under the mattress." After joining a VSL group, these members could access a more secure storage for their savings, reflected by the metal box with three keys, which is typically kept in the most secure and trusted house in the community.

Members in this study also reported the benefits of increased access to financial capital, through loans. Previously, these groups could not access loans from formal financial structures due to requirements of land ownership or written permission from husbands. The loans acquired from VSL groups provided for house repairs, payment of school fees, investment in agriculture, and even to cover the expense of ceremonies such as weddings. Of these reported benefits, the most stressed was the use of the loan as a safety net for emergencies. Additionally, these loans help to support the establishment and development of businesses, strengthening entrepreneurship and income opportunities (Source: Author's research findings).

A past study conducted in 2007 by Anyango et al collected quantitative and qualitative data regarding the range of financial services which were available in the remote and rural areas of Zanzibar. This study looked at VSLs in Zanzibar that had been started by CARE and then functioned independently with the training and support in the hands of a local organization, JOCDO. This study found that there was a close correlation between performance and education. Zanzibar, through government and development policies, has increased access to education, and the VSL members tend to be well educated. The study found that 58% of the women enrolled in the VLSs had some secondary-level education, compared to the average in Zanzibar of 48%. In contrast, only 5% of women in mainland Tanzania had some secondary-level education. Additionally, the members tend to be of relatively well-off socioeconomic status, defined by wealth ranking exercises and self-reports, which measured indicators such as diet, housing, asset ownership and economic activities. These exercises showed that 53% of the groups were determined as middle class, 45% as poor, and only 2% as rich. This participation is unique for Zanzibar and produces a favorable environment for the VSLs. However, these results might not be replicable in other areas of Tanzania where wealth and education are lower (Anyango et al, 2007). This study indicates that VSL members are keen to learn and quick to apply that knowledge proactively to build the success of their economic and social wellbeing. As education and training are two key factors indicated by this study, it is important to note how this might influence interaction with the forest and the general awareness of environmental conservation.

### **3.4.2 Challenges of VSLs**

CARE recognizes that reaching the most severely poor and most vulnerable is still a problem, as some women cannot afford to commit to the program, even though it only requires a few cents per week (Care, 2009). Organizational representatives, interviewed in this study, reported that poverty remains to be a huge problem that results in a difficulty for economic markets to grow. These markets are essential for income generation.

A study conducted by CARE, identified several social consequences of VSL groups and staff in Tanzania. Staff were concerned that daughters were taking on the tasks of mothers while the mothers were occupied with the tasks of managing their loans and pursuing business activities. Other concerns were that VSLs created an unbalanced status perception of the women in the villagers who are VSL participants and those who are not. Women also expressed some concern about the reactions of their husbands if they were to

start earning more. Although most times this led to a greater balance in the households, sometimes it led to jealousy and even violence by the husbands who feel threatened by the increased incomes of their wives. Other women complain that their husbands are less responsible for the household and subsequently reduce their commitments (Care, 2009).

### **3.5 INTERACTION OF HIMA AND WEZA INTERVENTIONS**

The VSL groups were initially introduced in Zanzibar by CARE in 2001 and 2002, as a way to support and compliment efforts of forest conservation with added elements of socio-economic empowerment, which contributed towards the development of alternative income generating activities (Anyango et al, 2007). This objective of CARE was later seperated into the two projects, whereby WEZA concentrates on socio-economic empowerment and HIMA concentrates on environmental conservation (as described above).

CARE International in Tanzania implements both the HIMA and WEZA projects from the Zanzibar sub-office. This set-up provides for the sharing of key resources among the stakeholders of both projects. These are both community-based projects that share weekly meetings to plan future strategies and reflect on progress made. The initiatives of the HIMA project are directly influenced by access to resources that WEZA had previously established. This was an important mechanism for laying the foundation for the HIMA project with entry points into the community and organizatoinal networking. The project locations also overlap, with some exceptions. The target groups of HIMA focus on poor marginalized people with an emphasis on women, while WEZA similarly focuses on marginalized and vulnerable females of rural areas. The overlapping tool for the projects and access point to these common target populations is the VSL groups.

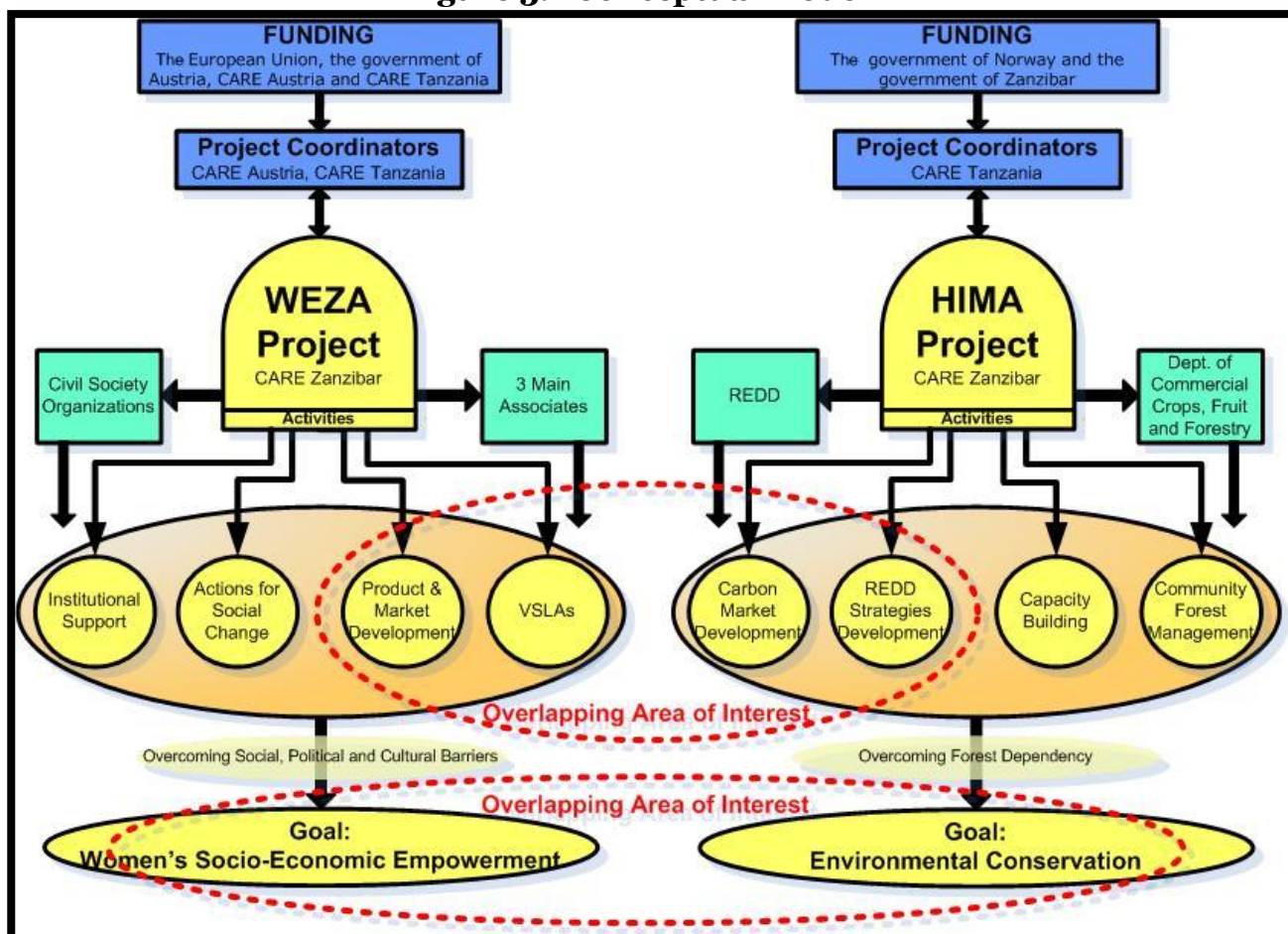
This relationship directly influences the activities of the WEZA projects as reports have suggested that WEZA's VSL programs influence the participants interaction with the forest, due to the use of forest resources for weekly contributions to and loan repayments. The HIMA team incorporates efforts to improve the options for income generating activites for participants of VSL programs, paying particular attention to gender sensitivity. Alternatively, the VSL groups of the WEZA program may be challenged by the improvement of conservation law enforcement and management, which is supported by HIMA. Here we see the direct overlap of interest, implimentation strategies and influential outcomes of these two projects.



### 3.5.1 Conceptual Model

The following is a conceptual mode that describes the actors (boxes), the relationships (arrows) and the concepts (ovals) that are surrounding this research. The dark blue boxes represent the most distant actors, which are international and national. The light blue represents the local actors, which are most central to the research. The yellow ovals indicate the activities, concepts, and influential factors of the research. Finally, the red dotted line indicates the overlapping interest areas of this research.

Figure 3.1 Conceptual Model



Source: Authors research findings



## **4. LITERATURE REVIEW**

### **4.1 CAPABILITY APPROACH AND SUSTAINABLE DEVELOPMENT**

The capability approach was first introduced by the economist Amartya Sen in the 1980s. It is a framework that focuses on the expansion of human capabilities and freedoms in order to achieve a desired state of well-being, as defined by the values of the individuals themselves. This view stresses the expansion of opportunities, individual choices, and ultimately human potential, and finds that individuals are not just people with needs, but rather ‘agents of change who can, given the opportunity, think, assess, evaluate, resolve, inspire, agitate, and through these means reshape the world’ (cited in Grasso & Di Giulio, 2001; p.3; Sen, 2000). Similarly sustainable development, as defined by the Brundtland Report of 1987, should fulfill the ‘needs of the present without compromising the ability of future generations to meet their own needs’ (Grasso & Di Giulio, 2001). Thus it is understood that the capability approach as applied to human development must incorporate sustainable measures in order to successfully implement positive lasting change. In this research, development interventions are viewed through the lens of both the capability approach and sustainable development. The focus is specifically on how economic development interventions, as exemplified by VSL groups, influence a person’s potential to lead the life that they value, in comparison to how this influences the capabilities of future generations in regards to the environment.

Sen’s capability approach contains three main concepts: functionings, capabilities and agency. Functionings are the “various things that a person may value doing or being” (cited in Deneulin & McGregor, 2009; p.2; Sen, 1999). Capabilities are the freedoms that one has to reach the condition or to take part in the activities that he/she values. Sen defines freedoms as the opportunities one has to accomplish their goals. Agency is then defined as the ability to pursue those goals (Deneulin & McGregor, 2009).

Allister McGregor and Severine Deneulin argue that the goals and values referred to by Sen’s capability approach are socially constructed. The values of one person might not hold true for another, due to their individual reasoning (Deneulin & McGregor, 2009). Sen chooses not to specify the values and freedoms that should be promoted in public policy or development practices. Instead, his approach promotes that these values and freedoms

should be ‘reasoned with, discussed and defined by the people themselves, and not by academics, theorists or practitioners’ (Deneulin & McGregor, 2009: p.11). Martha Nassbaum presents a version of the approach, in which she presents a set of ten human capabilities that people have a reason to choose and value, including: life, bodily health, senses/imagination, emotions, practical reason, affiliation, other species, play, and control over ones environment. This allows for a measurable set of data to be acquired, evaluated and assessed, in line with the capability approach. The suggested variables indicate not only what should be sustained in order to accomplish development. In response, Sen simply states that he does not object to Nassbaums project, but warns against making a replicable defined list that may be seen by others as ‘the only way’ (Deneulin & McGregor, 2009: p.11).

A key to understanding the capability approach, as described by Deneulin and McGregor (2009), is that ‘freedom should be both a means and an end to development.’ Thus, if the end result does not provide for the sustained freedom of a person to reach the goals that they consider valuable, it is not considered successful. It must focus on promoting the freedom of a person to take an opportunity and to achieve what they value, not only today but also in the future (Deneulin & McGregor, 2009).

## **4.2 ECONOMIC DEVELOPMENT**

When assessing economically centered development interventions, the combined capability approach and sustainability development views can be used as an alternative to neo-classical economic frameworks. Although income-based well-being provides a measure for economic development, it fails to incorporate social and environmental aspects which are typically valued by the individuals involved. The neo-classical approach often overlooks how development influences the sustainability of the environment, which might be a direct source of income, as exemplified by this study.

Amartya Sen argues that income and commodities are not an adequate measurement of quality of life due to ‘heterogeneity in what is required to meet needs, diversity of physical environments, variations in social context, differences in relational perspectives and varied distribution of commodities within a family’ (Deneulin & McGregor, 2009). Traditionally, economic development interventions exemplified by microfinance see poverty as a set economic circumstance that resulted in the deprivation of income (Deneulin & McGregor, 2009). When viewing economic development interventions through the lens of both the

capability approach and sustainable development, initiatives should aim to provide a route out of poverty that recognizes economic growth as a tool to increase an individual's ability to reach their personally defined well-being goals and future ambitions.

Micro-savings initiatives, such as the VSL groups of CARE in Zanzibar, should be evaluated by putting the participants' needs and goals at the center. A study by Otto and Ashta in 2010 argues that micro savings initiatives provide the 'most direct' pathway out of poverty for the poorest of the poor, which is the target group of the WEZA project. The poor are reportedly active savers, but in the absence of savings options they often resort to informal saving methods such as hiding money throughout the house or buying livestock. These methods restrict the capabilities to protect financial privacy and also the self-discipline needed to encourage further savings habits. Further studies show that the primary financial challenges of the poor are in building lump sums that can be used for investing in futures and for cushioning against shocks caused by emergencies and risks. Thus, savings behavior is a direct variable influencing the sustainability of a person's ability to expand their capabilities and plan for future development. VSL groups provide savings tools that can help members to secure larger amounts, which help members to cope with variable income patterns and unforeseen expenses (Kendall, 2010). Savings options through VSL groups provide a foundation for sustainable growth, allowing for increased capabilities to strengthen behavioral characteristics and promote future personal growth.

Development projects should be measured by a definition of success that is 'perspective dependent and based on the increasing of overall wellbeing' (Otto & Ashta, 2010: p.3). When evaluating economic development through this lens, a research can ask: does this microfinance initiative enhance the freedoms of the participants to achieve the goals they value and does it sustain the ability for future generations to achieve the goals that they value as well?

### **4.3 ENVIRONMENTAL CONSERVATION**

A person's environment is directly related to their wealth and functioning's. Thus, the sustainability of a development intervention heavily relies on the recognition and integration of environmental sustainability. A study by the International Poverty Centre with the UNDP focuses on the capability of a person to find "productive employment" that is fulfilling in three areas: "personal fulfillment, value added to the economy, and

restoration of the link between humans and nature” (Delamonica & Mehrotra, 2006). In examining the interaction between environment and economic-social synergy, the study finds that sustainability in both areas is directly impacted by the generation of employment opportunities. For example, a farmer who is partially dependent on non-timber forest products will suffer from a capability deprivation if loggers or poor design/enforcement of conservation policies cause deforestation in his area. In relation to this study, it is important to recognize the relation between sustainability and economic growth through VSL groups and the development of income generating activities.

## **5. METHODOLOGY**

The research approach utilized in this study has quantitative and qualitative aspects, which directly reflects on the Q-Squared approach (Hulme, 2007). This method emphasizes the strengths of quantitative methods, recognizing the reliability and replicability of empirical data collection and statistical analysis, but also acknowledging that this process may ignore potentially useful information or fail to present information in context. Alternatively, the Q-squared approach incorporates qualitative methods to provide for a deeper, richer and more holistic interpretation of the data. In order to outline this approach and gain a deep insight to the research question, this research quantitatively uses both participatory and ethnographic methods.

### **5.1 RESEARCH PLAN**

The Q-squared methodology, paired with the capability approach and sustainability develops the plan for this research. The capability approach was applied in the formulation of the methodology, in order to put the values, freedoms and capabilities at the center of the research. This was done to provide for a holistic method that not only looks at economic growth and income generation through quantitative measurements, but which also incorporates qualitative measures of social interaction with the environment.

The research can be defined by 4 phases. In this primary stage, the collection of secondary data and the start of primary qualitative data were begun. Qualitative methods included semi-structured interviews of key stakeholders within the organizations. Exploratory field visits were conducted in order to observe and discuss the research topics at a local level. This data was conducive for defining the research population and the sampling population. This data was also used for the definition of the needs and objectives of the research, followed by the formulation of the research plan.

The second stage can be defined by first the quantitative collection of data through surveys in each of the selected villages. After obtaining approval from village leaders (shehas), 107 surveys were conducted between the 3 sample villages. After screening of the completed surveys, 95 were determined as usable. These surveys serve as a key instrument in obtaining basic information on the sampling population, including factors such as household economic conditions, VSL involvement, and forest interaction.

The third stage can be defined by the collection of qualitative data from the three villages

in response to the initial primary analysis of the quantitative data. This was done through focus group discussions in each village with VSL members, and additional semi-structured interviews with organizational members, VSL leader, Village Conservation Committee (VCC) leaders, village leaders (sheha), government officials and additional key informants. The fourth stage comprised of processing the data and using cross analysis to produce the results and recommendations for future strategy development.

## **5.2 RESEARCH POPULATION AND SAMPLING POPULATION**

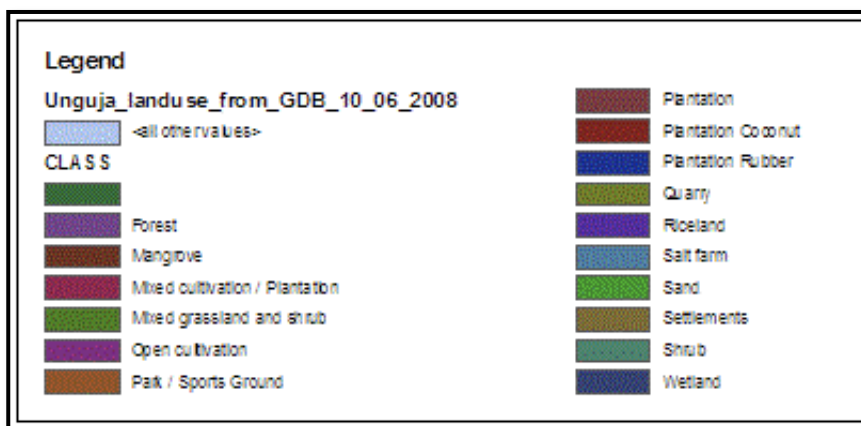
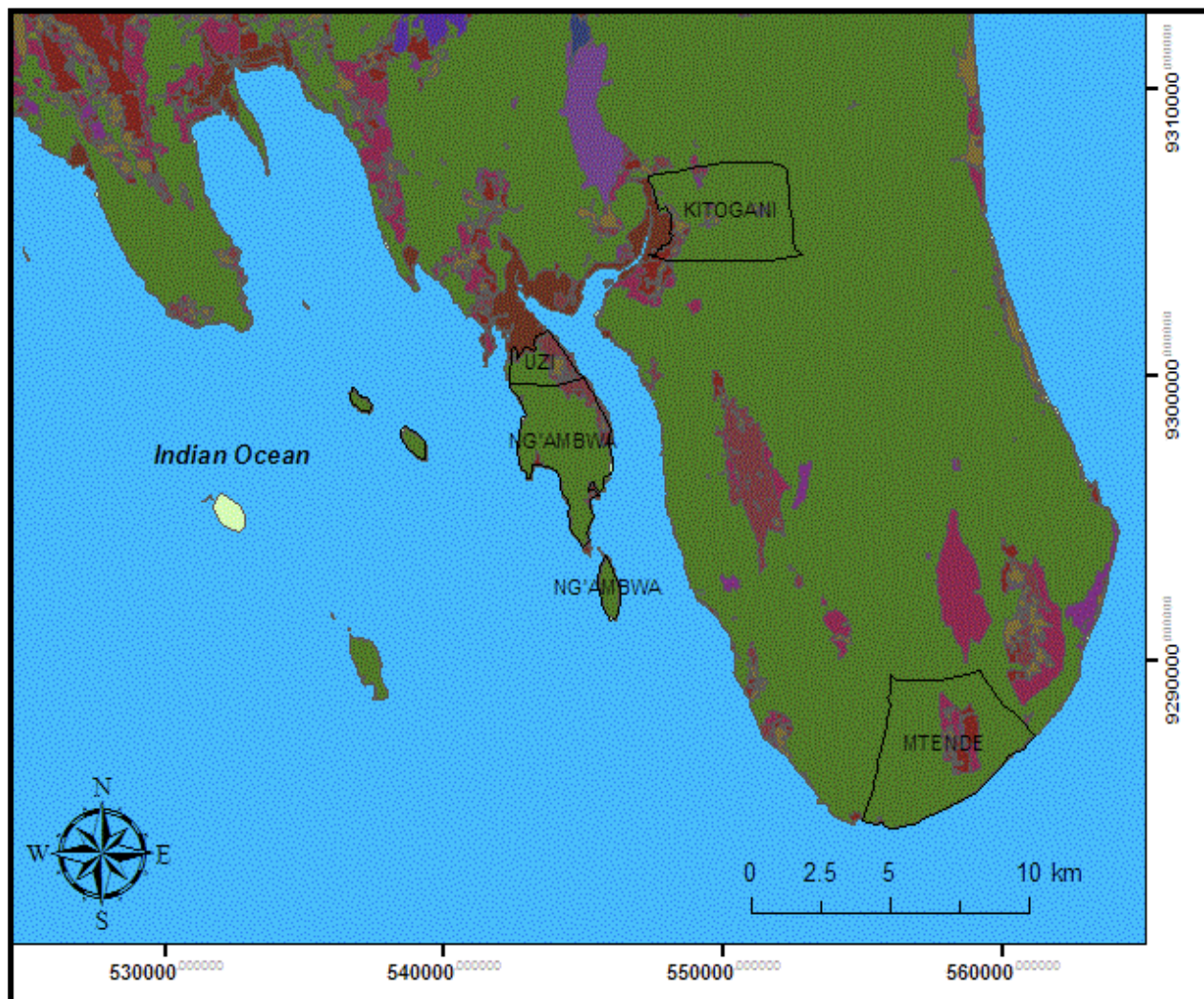
The first phase in the research was to identify the research population and the sampling population. The research population for this research includes VSL members in Zanzibar, Tanzania, who are involved in areas where both the WEZA and HIMA exist.

The study population was developed through the use of purposive sampling techniques. Due to time and financial restraints, the population chosen was restrained to the island of Unguja and thus should not be seen as representative of the whole of Zanzibar. First a list of villages (shehias) that are involved with both the HIMA and WEZA projects was produced, along with a map to determine the proximity of each village with various types of forest areas. Previous and current studies of areas that involved these villages were also taken into account providing a firm foundation and understanding for the design and implementation techniques of the research. These resources were used to select three sample villages to be a part of this study, including Kitogani, Mtende, and Uzi island. They were chosen due to their proximity to a variety of forest environments.

The following map depicts the selected research villages and the environmental context of land cover.



**Map 5.1 Map of Research Locations and Environmental Land Cover**



(Department of Forestry, 2008)<sup>2</sup>

<sup>2</sup> This map was produced by the author by way of GIS mapping software, which incorporated the cited data from the Zanzibar Department of Forestry

The sampling frame at the village level for quantitative data collection included an average of 35 VSL members in each village, as approved by each village leader. After screening through the surveys it was found that an average of 32 surveys were usable from each village, for a total of 96. Although women are the target group of the WEZA program, men are also involved in the VSL groups. Therefore, they are important factors to include for both comparison and recognition of the degree of their involvement. This survey included 31 men and 65 women. 27 of the surveyed participants ranged in age from 18-30 years. 53 of the respondents ranged in age from 31-50 years. And the remaining 16 respondents ranged in age from 51-71 years. In order to avoid biased quantitative results or repetition of data, no two respondents was from the same household. In each of the villages, the sampling frame was careful to represent all available VSL groups.

Qualitative data collection worked within and also outside of this sampling frame, in order to include key informants. Non-random sampling techniques were used to identify these informants based upon their relevance to the study. Qualitative data collection included the following:

- Kitogani: 2 focus group discussions (8 and 4 female participants respectively), interview with the VSL leader (female), interview with the sheha leader (male)
- Mtende: 1 focus group discussion (4 female participants), 2 interviews with VSL leaders (male and female), interview with the sheha leader (male)
- Uzi: 1 focus group discussion (4 female participants), interview with VSL leader (male), interview with VSL member (female)
- Partnering organizations: Interview with 2 female representatives from JECA, 2 interviews with JOCDO workers (both male)
- Interview with CARE representatives from both HIMA and WEZA projects (male and female respectively)
- 2 additional interviews with VSL members from Kusini District (female)
- 1 interview with representative from Department of Forestry (male)

These were at local levels (community leaders, VCC members, VSL leaders), regional levels (members of CARE and also partnering and implementing organizations involved in the region of the selected villages) and at national levels (Zanzibar government departments).

## **5.4 LIMITATIONS AND BIASES**

Although this research includes a large sampling size, the sampling population is limited to the island of Unguja due to financial and time constraints.

As the research took place within a population who is predominately Islamic, gender-based power relations were particularly important to pay attention to. This played an enormous role in choosing surveyors and translators. A female would have provided for the ideal environment, since many of the participants were also female. However, cultural restrictions limited the search in finding a woman who had permission to work in such an environment. Alternatively, this study accessed the use of male surveyors and translators for interviews and focus group discussions. All efforts were made to find males who were sensitive to female respondents, knowledgeable of the research issues and familiar with the village areas. Although all efforts were made to ensure the sensitivity of the respondents, the fact that the surveyors were male may have altered the respondents' comfort in responding honestly. In order to answer this bias, focus group discussions were held with only female VSL members. In these discussions questions were aimed at all VSL members in the village rather than at these particular women. This provided an environment whereby the women, who were all well acquainted and familiar with each other, could speak more freely and honestly.

For this purpose, the research trained three surveyors, one for each village. The study also used three translators for the focus group discussions who were used interchangeably depending on availability and knowledge of the specific interview subjects. Such a large group of translators and research assistants did however create differences in the respondents' answers. In order to prevent this reflecting in the results, surveyors were asked to review the resulting surveys with the researcher, identify information gaps and differences, and then return to the village to gather the needed information and to make the necessary corrections. A pilot of the survey was also done in order to frame the survey and questions in a way that was most comforting to the participants.

An additional bias was identified in locations where environmental organizations had conducted awareness campaigns and capacity building of forest management organizations, such as the village conservation committees. In areas where this was a dominant factor, the participants were reluctant to speak about income generating activities that involved the forest, for fear that they might be reported and fined. This was

despite the fact that the research always made sure to get informed consent, which ensured complete understanding of the research, the respect of privacy and the anonymity of any and all information, provided. This was directly reflected in the surveys. In-depth interviews and longer field visits were conducted in these areas in order to build trust and to generate more honest and open answers.

## **5.5 ETHICS**

This study took careful ethical considerations into account when planning and conducting the research. During the data collection, informed consent was sought in order to ensure that the participants fully understood the aims of the research itself and freely agreed to take part in the study. Care was taken to ensure that all the participants knew that their participation was voluntary and that the information given would be kept anonymous. This also explained that they could choose not to answer a question and that they could withdraw from the study at any time. In order to ensure the full understanding, the informed consent form was translated into the participant's home language, usually Swahili. Consent was also obtained for the use of photographs or direct quotations.

In conducting this study, it was important to give ethical consideration and recognition of power dynamics and relationships. Due to the situational context whereby the population was predominantly of the Islamic religion, the recognition of gender-based power relationships was essential in selecting the translator and setting. Focus group discussions were used as a qualitative data collection point for this study. In order to reduce power struggles, focus groups were made up of women who were all of the same VSL group, which allowed for them to speak more freely and comfortable amongst peers whom they worked alongside of in the groups.

## **6. FINDINGS**

In order to explore how VSL groups interact and influence the conservation of the forests, this study explores a set of sub-questions from the perspective of different stakeholders: VSL members and leaders, community leaders, CARE representatives, associated organization representatives and government officials. This analysis follows the framework of the pre-defined sub-questions. Additional relevant data and suggestions for future research are noted and explained in this chapter.

The study recognizes income generation as a key component to the member's involvement with the VSL group and also their interaction with the environment. Income generating activities are opportunities for VSL members to provide for themselves and their families and ultimately reach their personally defined state of wellbeing. But without the careful consideration of how this might influence the environment, the increased capabilities through the practice of IGAs might not be sustainable, therefore negatively influencing the capabilities of future generations. Thus, IGAs are focused at the center of the study.

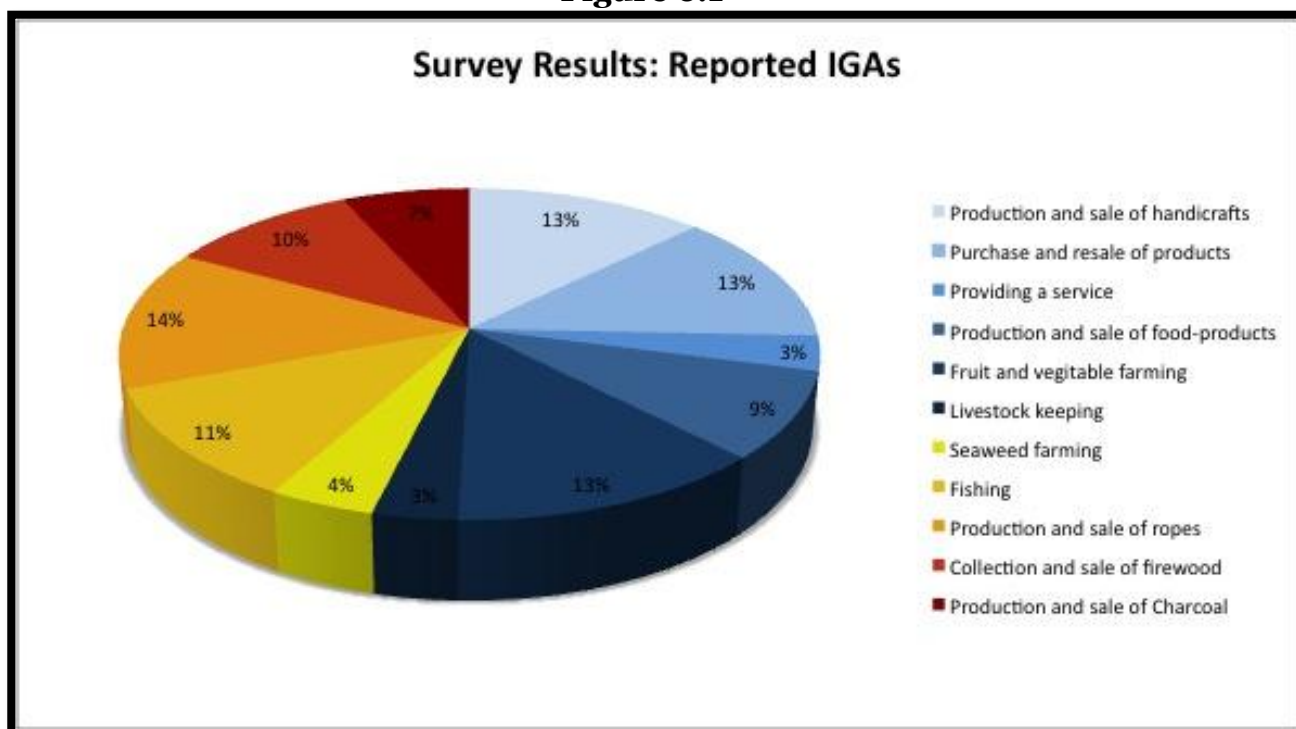
A situation analysis was first used in order to determine the current state of affairs of the villages at the time of the research and the reasons behind this. Situation analysis is defined as "the process of understanding the status, condition, trends and key issues affecting people and people's livelihoods, ecosystems or institutions in a given geographic context" (WUR, 2009). As part of the Q-squared methodology, this research utilizes a comparative analysis of statistical and qualitative results. Semi-structured interviews with organizational representatives, community leaders, VSL leaders and government officials were used to determine which IGAs were being promoted and trained. In order to establish the degree to which the VSL members were actually practicing these IGAs, surveys were conducted to identify the top three most practiced IGAs for each individual, amongst other essential quantitative data. Focus group discussions were held with VSL members to contextualize the collected data and find the reasons behind the decisions and practices of the VSL members, in regards to their IGAs. Additionally the study identifies key trends of VSL members' IGA behavior. As a result, both similarities and differences were found in how the perceptions of the organizations translated to the real-life practice of the VSL members.

## 6.1 CURRENT INCOME GENERATING ACTIVITIES

**Sub-Question 1:** What are the current IGAs of VSL members? The study identifies the extent of which different IGAs are being chosen and practiced and which of these current IGAs involve the forests.

It is important to recognize that IGAs are defined as income generating activities that are used in addition to the main occupation of an individual. Overall, 56% of the VSL members who participated in the surveying of this study indicated that they use income generating activities beyond that of their main employment. As depicted in the following chart, the survey results reflected 11 main IGA categories. The most frequently recorded IGAs of the participants are as follows: the production and sale of ropes, the production and sale of handicrafts, the purchase and resale of products, fruit and vegetable farming, fishing, and finally the collection and sale of firewood. The reasons for the popularity of these IGAs will be discussed throughout the remainder of this chapter.

**Figure 6.1**

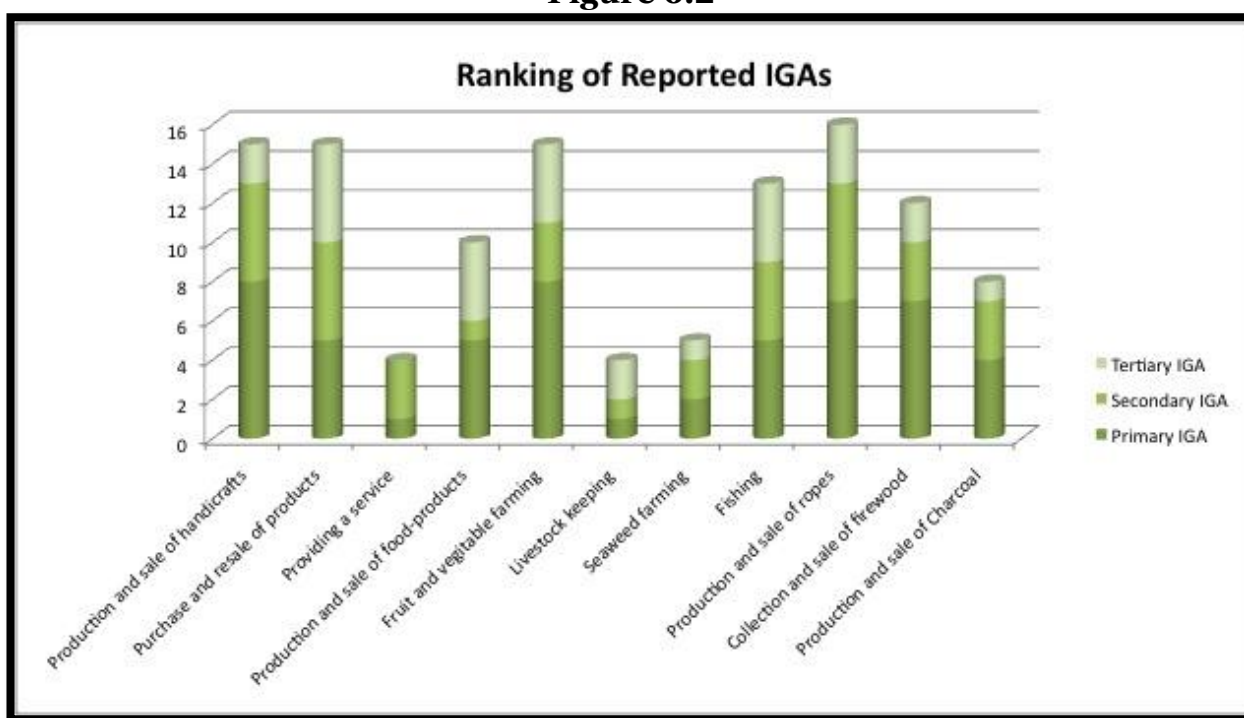


Source: Author's research findings



The surveys requested each respondent to list their top three IGAs and to rank them in order of participation as primary, secondary and tertiary IGAs. Therefore, the responses in the above chart are representative of the combined responses in each IGA category. The following table depicts the ranking of the IGAs as indicated by the respondents. This chart shows that farming, handicrafts, rope making and firewood are the top primary IGAs. This indicates that although an IGA might be listed, as recorded in the above chart, the degree of participation might differ based on several variables that will be illustrated in section 2 of this chapter.

**Figure 6.2**



Source: Author's research findings

The survey results show that 44% of the respondents did not recognize any participation in IGAs. This raises the question of where these members accessed the finances needed for the costs associated with the VSL group. The focus group discussions and interviews with VSL members helped to identify where this group accesses the money used to pay VSL fees and to repay loans. From these conversations, it was inferred that they receive the income from two main resources. The first is income from their spouses and other family members. The second is that the income comes from forest-related activities that are illegal, and therefore not formally recognized in the survey due to fear of penalties.

Collectively, these results and responses can be distinctly divided into two categories, which will be further elaborated in the following sections. The first category involves the



sale of non-forest products. The second category involves the sale of forest-related products and can be further divided by IGAs using timber products and IGAs using non-timber products.

### **6.1.1 Non-Forest-Related IGAs**

This category involves the sale of non-forest products and services, which includes the following: the production and sale of non-forest products, the purchase and resale of non-forest products, and the provision of services.

CARE and key stakeholders in the community identified IGAs that are trained and promoted through the VSL groups, all of which are categorized as non-forest-related activities. The HIMA project supports the development of these IGAs through the provision of small grants used to establish woodlots, vegetable farming, forest and fruits seedling production and handicrafts. The support of HIMA is aimed at promoting environmentally sustainable income options, which do no harm to the forests or even promote conservation (CARE, 2010). Similarly, the WEZA project identified trainings to enhance the production and sale of vegetables and fruits, poultry, tailoring and handicrafts. WEZA supports these IGAs, in order to expand of the available financial opportunities for women, which would in turn expand their social and economic capabilities (Hoogerbrugge, 2010). The WEZA and HIMA projects also work with partnering organizations in the implementation of the trainings on IGAs. In discussion with partner organizations it was clear that building small businesses was the focus of their trainings. These included the production and sale of handicrafts and the development of agricultural practices. Collectively, these organizations and projects promote both the expansion of capabilities and sustainable development, in regard to the environment. However, the trainings are all carried out individually, with separate approaches and separate focuses. Thus the comprehensive, sustainable message is not always conveyed to the participants.

#### ***A. The production and sale of non-forest products***

The following describes IGAs, which involve products produced and sold by the participants and that do not directly influence the forest. These activities are typically supported by both the HIMA and WEZA projects, due to their ability to support their project's objectives. The success of these IGAs is dependent upon the available market and the resulting demand; variables of which will be discussed in section 6.2 of this chapter.

The production and sale of handicrafts was represented by 13% of the survey respondents who indicated a participation in IGAs. Many women participated in the sewing of embroidered hats, worn traditionally by men of the Islamic religion. Additionally, handicrafts include weaving of floor mats, which are used in each house to cover the floor during meals. The production of soaps and perfumes was reportedly often practiced as group activities in cooperation with other VSL members and then sold to tourists.

The production and sale of food products was represented by 9% of the reported IGAs. This includes the making and sale of food items such as bread and different snack items. Various juices are made and sold by those who have access to refrigerators or freezers.

Fruit and vegetable farming is represented by 13% of the reported IGAs. Agriculture was represented as the main occupation of 37% of the surveyed VSL members, and thus is one of the most popular activities amongst the surveyed VSL participants. Additionally, 83% of the surveyed VSL members reported that they farm fruits and vegetables for their own consumption. These figures indicate the prominent role that agriculture plays in rural villages. Future research is recommended to further explore the impact of agricultural practices on the environment, with specific regards to the amount of land cleared for this purpose.

Livestock keeping was represented by only 3% of the VSL members as an IGA. Discussions revealed hen-keeping as one of the most prosperous IGAs, providing the VSL member the opportunity to provide for their family and also generate an income.

### ***B. The purchase and resale of non-forest products***

This included the purchasing and re-sale of laundry soaps, khangas, phone vouchers and shoes. These IGAs accounted for 13% of the reported IGAs in the survey. In some VSL groups this was done as a group activity, whereby a group of the VSL members buy, resale, and then split the profit. Other times this was done individually. This method of income generation is dependent on the ease of access to these products, which is furthermore affected by their access to transportation or a network that sells affordable products. HIMA has also explored opportunities whereby products that encourage forest conservation can be promoted, such as the selling of bottled gas and other cooking fuel alternatives. For the time being, this market is restricted due to the unfavorable prices that make firewood and charcoal more affordable. Thus, it is not reflected as a practiced IGA in the survey results. Future research should explore possible opportunities for this market.

The VSL groups often provide the main demand for these items, as sale-orders for the products are taken during the weekly VSL meetings.

### ***C. The provision of services***

Only 3% of the reported IGAs involved providing a service. These activities were all reported by men and included stone lying, carpentry and construction.

## **6.1.2 Forest-Related IGAs**

46% of the reported IGAs by VSL members indicated their participation in the sale of timber and non-timber forest products as an income generating activity. If not properly managed and controlled, these IGAs contribute to deforestation and environmental degradation, and thus threaten the sustainability of development that is promoted by the VSL groups. The activities in this category include fishing, seaweed farming, rope making, cutting of firewood and the making of charcoal.

### ***A. Non-timber products***

The following descriptions are of IGAs, which directly involve use of non-timber forest products. These activities are important to monitor and note, as their practice can indirectly contribute to deforestation and the breakdown of ecosystems, thus reducing the capability of future generations to enjoy and make use of the forest.

Seaweed farming was reported as a female dominated activity, represented by 4% of the survey respondents. This activity was largely seen in the sampling area of Uzi Island due to the close proximity to the coastal mangroves.

The survey responses reflected that 11% of the VSL participants practice the capture and sale of fish. Fishing typically takes places in the creeks of the mangrove ecosystems. Fishing is important for providing income, but also for providing nutrition for the communities. Fishing involves the extraction of fish from the creeks through various techniques (The Society for Natural Resources Conservation and Development, 2010). It is important to note that exploitation of these creeks could result in damaging the ecosystem.

The production of ropes was an activity that was reported by 14% of the participants. This process involves processing coconuts by burying them in the soil, in order to soften and remove the fibers from the shell. The activity was reportedly practiced in groups, as the work is highly laborious.

### ***B. Timber Products***

IGAs that involve timber products include the sale of firewood and charcoal, which are activities that place direct pressure on the immediate availability and future sustainability of forest resources. Focus group discussions and interviews revealed that the representation of IGAs involving the sale of timber products was greatly under-represented in the survey results, which described these as 17% of the reported IGAs by VSL participants. This under-representation was in part due to the presence of environmental advocacy groups, forest management and the resulting laws that dictate interaction with the forest. In villages where there was a strong presence of environmental advocacy organizations, the community leaders, community members, and VSL members were increasingly mindful of the damaging effects of some forest-related activities. They were also aware that they should not and could not, by law, participate in certain activities involving the forest, and therefore were reluctant to answer openly. This resulted in noticeably biased answers to the surveys and censorship of language in some conversations regarding their interaction with the forest. In-depth conversations allowed for the building of trust and understanding of the research and resulted in supplementary open and honest answers.

Firewood collection was reported by 10% of the respondents as a practiced IGA. This IGA is practiced in two manners, collection of fallen firewood and the collection of cut firewood. The firewood is separated into bundles and then commonly sold within the villages as cooking fuel and also in larger amounts to buyers in Stone Town. On average, a bundle of wood could be sold for Tsh 1,200. The practice of firewood collection as an IGA is typically in addition to normal collection of firewood that is used for the self-consumption of the VSL member's household. The main household use of firewood is exemplified by 97% of the surveyed participants who indicated it as a main source of cooking fuel.

Firewood is gathered in two ways, the first of which is described by the collection of dried and dropped firewood. This is a practice in which the participant does not harm the forest and thus it is advocated as the preferred method of conservation committees. HIMA and its partnering organizations encourage this option in their trainings and workshops with the VSL groups. However, when members were asked why they were not collecting dropped firewood, they simply stated that there is none left due to forest depletion.

As a result, the more commonly practiced method of collection is described as "cutting." This describes the method in which the participant cuts firewood from trees and

shrubbery. This method contributes to deforestation, and is a primary example of unsustainable income activities that are used progressively more (as described later) as a result of an economic development intervention. In interviews, questions were asked as to why VSL members cut wood rather than gather dried and dropped firewood. On three separate occasions the respondents explained “there is simply no fallen firewood anymore because the forests are depleted.” The surveys indicated that 65% of those who collect firewood as a means of income do so by means of cutting. Qualitative data supports that this figure is under-represented, indicated by a strong probability that VSL members hide the practice of cutting firewood, and instead claim that they are gathering or deny firewood collection all together.

The production and sale of charcoal is a prominent IGA with a 7% participation rate of the VSL members who reported IGA activities. From the sale of a 50kg bag of charcoal it was reported that the participant could earn Tsh 6,500, indicating that this activity is more profitable than the sale of firewood. In the villages, men account for about 70% of the charcoal production, due to the heavy and strenuous nature of the work. This activity involves the use of nearby creeks for the burning of wood. Ultimately these creeks are contaminated and the surrounding ecosystems are ruined. Although this activity is illegal by the Forest Act of 1955, charcoal makers still often utilize mangroves for making of charcoal (The Society for Natural Resources Conservation and Development, 2010). Due to the illegal nature of this work, VSL members were highly secretive of this activity and thus it should be noted that the representation of this activity, as found in this study, might not reflect the actual population.

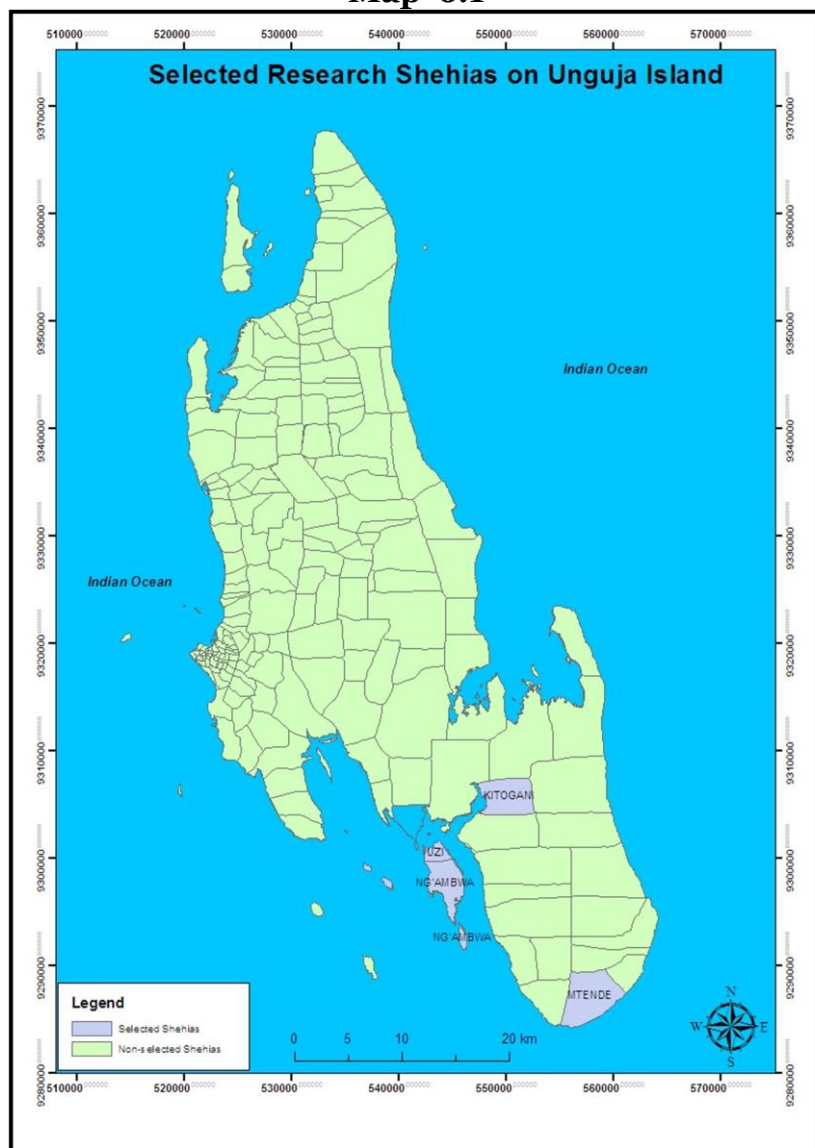
## **6.2 KEY VARIABLES IN CHOOSING AND PRACTICING IGAS**

**Sub-Question 2:** How do members choose IGAs in which they participate? The following factors are explored in order to identify key variables, which influence the choice and practice of IGAs: community factors, economic factors, climate change, and social factors.

The selections of IGAs by the HIMA and WEZA projects are influenced by their individual objectives of women’s social empowerment, economic growth and environmental

conservation. Both projects recognize that the ability of the participants to choose and successfully utilize income generating activities is affected by variables such as gender power relations, availability of resources and market opportunities, amongst others (CARE, 2010; Hoogerbrugge, 2010). IGAs were selected in order to strengthen the capabilities of the participants, by increasing entrepreneurship skills and promoting reliable earnings that would in turn provide for that individual to reach their valued state of well-being in the present and in the future. The research found that each village had a unique set of circumstances that helped to determine a unique set of IGAs. These IGAs involve and influence the environment in various degrees, and the following section describes the variables that determine to what extent different IGAs are chosen and practiced.

**Map 6.1**



(Department of Forestry, 2008)

### 6.2.1 Geographic variables

The environmental context of each village determined the availability of forest and non-forest resources, which are needed for IGAs. The study was based in three villages with distinct differences in environmental circumstances. Qualitative methodologies utilized the tool of locality mapping to draw and discuss the villages and their surroundings. This along with discussions allowed for the identification of environmental factors that contributed to the differences in the choice, practice and success of IGAs.



The distance to main roads and the distance to Stone Town played an important role in determining the associated costs and accessible markets of IGAs. In areas that could easily access main roads, IGAs were more likely to influence and be influenced by increased access to markets. This is exemplified by the sale of firewood to traders who transport and sell the products in Stone Town. Areas located on a main road, but located further away from Stone Town had to sell more quantities in order to make the same amount as those who lived closer to town, due to higher transportation costs.

Proximity to tourism attractions directly influenced the generation of markets for items such as handicrafts. This was exemplified in the village of Kitogani that borders the Jozani National Park, which is a protected environmental area. In this area, VSL members were able to generate income from the production and sale of perfumes, soaps, oils and other handicrafts. This provided an additional income opportunity that promoted both the expansion of economic opportunities and the practice of environmentally sustainable income options. The other villages included in this study did not have such a direct geographic connection with the tourism industry and therefore reported that although they try to practice these activities, this market is not reliable and typically only profitable during the “high season”, if at all.

Distances to the forest and forest density are key factors in determining the type of IGAs practiced and degree of interaction with the environment. In villages located in areas of relatively higher forest density, it is more possible to collect fallen firewood rather than resorting to cutting. However, this research revealed that in all three villages the forests were depleted to the point where gathering dried firewood was restricted due to low supplies, and thus the participants were more likely to cut. Alternatively, in areas where the forests are depleted and less dense, the individuals often travel longer distances to areas where firewood is accessible. In this scenario, groups plan trips by car or arrange to walk long distances together and spend the night in the forests while they collect firewood. As this multiplies the time and effort needed to collect firewood, these participants reported that they cut firewood rather than searching for fallen, as it is less time consuming. These participants were also more likely to gather large amounts at one time, in order to reduce the amount of trips needed to gather fuel for their own use, and also the material that they sell to make a profit. The type of forest also determines the type of interaction. In areas of mangrove forests, charcoal making is more prominent due to the availability of needed materials used for the production. On the other hand, in coral rag



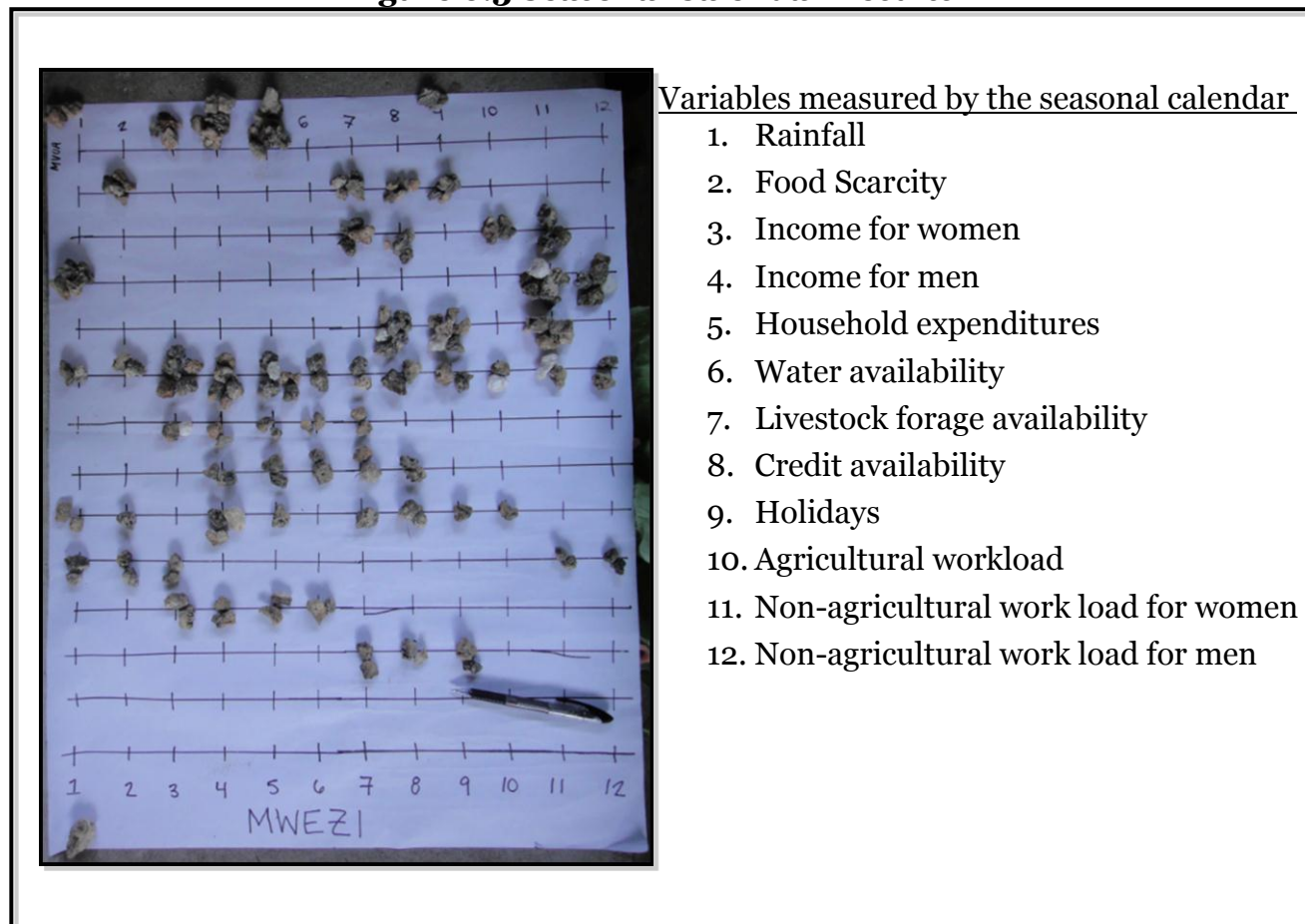
forests individuals are more likely to collect firewood.

These geographic factors determine whether environmentally sustainable activities are more or less likely to be practiced. It is important to remember that in all areas, members need a financial source to provide for the costs associated with the VSL groups. Although it is theoretically possible that each can adjust their costs to meet the needs of the participants, there was no significant difference identified in the determined share values or loan amounts. Thus, restrictions created by geographic variables did not impact the decisions of the VSL members in determining the value of a weekly share. Additionally, this research found that environmentally unsustainable IGAs such as charcoal and firewood cutting were more likely to be practiced in areas where forests are depleted and in more need of conservation efforts. This suggests a contradiction in these areas between efforts to increase capabilities of individuals through VSL groups and efforts of environmental sustainability. Future organizational support should focus on these areas, as they need key assistance in expanding IGA options and market development.

### **6.2.2 Seasonal variables**

Quantitative data indicates that individuals choose and practice several different IGAs, as indicated by the primary, secondary and tertiary IGAs in Figure 2. Qualitative findings, through creating and discussing seasonal calendars within focus group discussions, identified that these IGAs vary throughout the year depending on seasonal variables such as agricultural cycles and seasonal demand. This participatory method uses visual tools to create a calendar of variables that help to determine the fluctuations and patterns of IGAs throughout the year. The revealed patterns and conclusions were discussed together with the VSL members in order to contextualize the results. The following picture of a seasonal calendar exemplifies the commonly reported patterns. Each horizontal line represents a different variable while each tick on the line represents a different month.

**Figure 6.3 Seasonal Calendar Results**



Source: Author's research findings

These variables indicated that agricultural workers (by occupation) and participants of agricultural IGAs have two main seasons that require the highest workload. This is defined by the planting and harvesting seasons. The bulk of agricultural income is produced after items are harvested and then sold. This income must be stretched over the next year, while additional IGAs help to supplement income during the gap. Furthermore, several reports indicated common risks associated with crop failures, including the spread of diseases and climate change seen through rise in temperature and reduced rainfall. Additional IGAs help to substitute these low or missed income opportunities, ultimately creating a financial safety net for the participants.

The discussion also revealed that the timing of the Islamic calendar was a key component in determining the seasons of IGAs. The above example accounts for the year of 2010, in which the holy month of Ramadan was from 11 August to 9 September. During this month, traditional celebrations and ceremonies help to provide for a higher income for women, as there is a higher demand for products used in these ceremonies and

celebrations. This season also reflected the increase of household expenditures, which is further exemplified by VSL participants who listed taking out loans in order to support wedding costs.

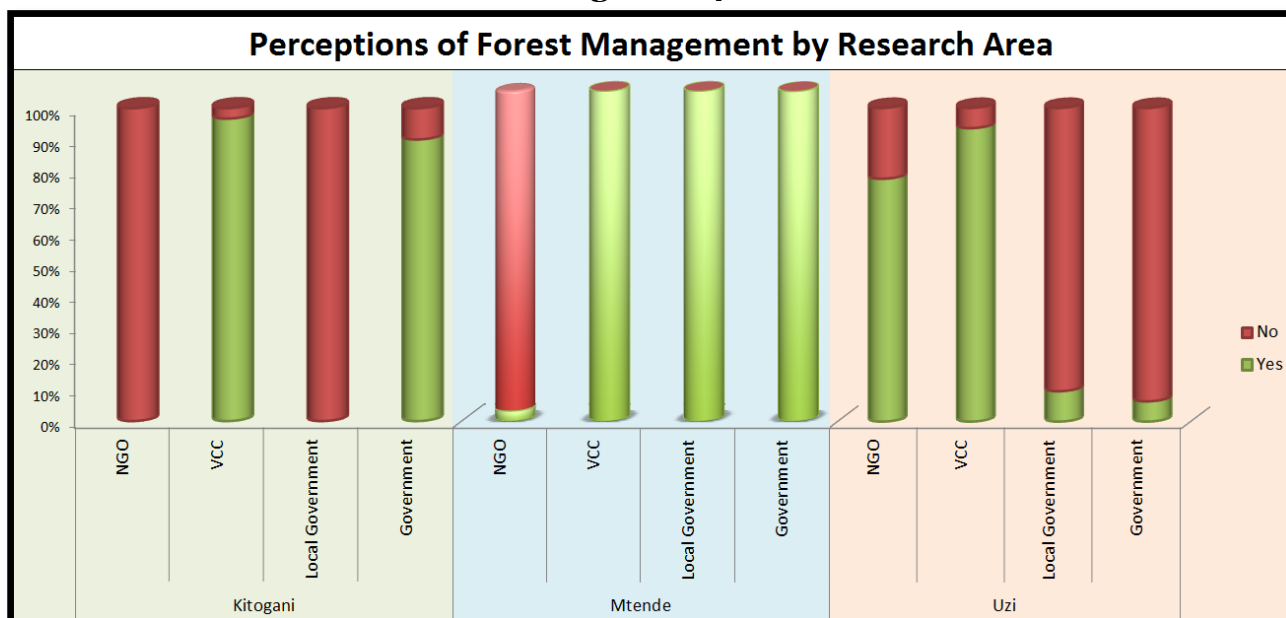
Practicing a variety of activities helps to ensure a generation of income throughout all seasons. The seasonal patterns reveal times of increased financial need that influence the degree and types of activities practiced. In times of higher need, participants indicated that they are more likely to disregard environmental restrictions and protected zones. CARE should incorporate these varied seasons into trainings and IGA development, in order to help cushion for the heightened needs of their participants.

### **6.2.3 Organizational variables**

In the selected villages, both the HIMA and WEZA projects and their partnering organizations were present and active, nevertheless their interaction with the VSL groups differed in kind and intensity. These organizations and their willingness to join hands in conservation efforts proved to be a key tool for raising awareness, establishing environmental policies and enforcing bylaws.

The survey identified the perception of the VSL members in regards to which organizations they believe influence forest management. In each of the villages the following organizations were recognized: NGOs, Village Conservation Committees, the Local Government, and the Government (of Zanzibar). The following graph reflects the varied findings of this survey question, which specifically asked if each organization is responsible for the management of the forests near by the village.

Figure 6.4



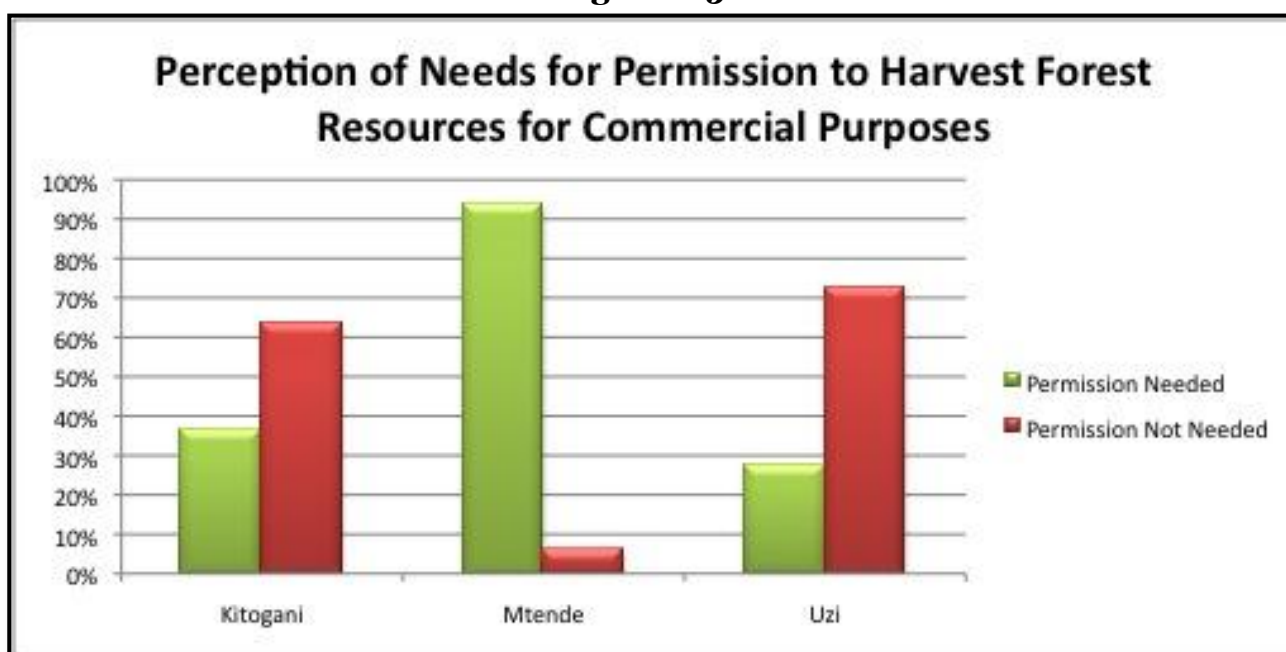
Source: Author's research findings

As reflected in the above chart “Perceptions of forest management by research area”, VCCs were the only recognized organization in all three of the research villages. VCCs exemplify community based forest management by holding the authority to manage forest interaction and also to enforce environmental laws. HIMA and its partnering organizations work to advise VCCs on committee organization, efficient functioning’s, and effective implementation. The VCCs are made up of local representatives from various groups in the village, including hunters, agriculturalists, woodcutters, seaweed farmers, VSL members, and other groups. Together these representatives develop and implement a set of bylaws to determine the fines, penalties and other regulatory measures of forest interaction. The committee also works together with the government and other organizations to determine the protected environmental zones, which are designated for different purposes; i.e. protected areas, grazing areas, etc.

The survey also inquired about the respondent’s knowledge of forest-related laws and regulations, first asking if permission is needed in order to harvest forest resources for commercial use and secondly asking if the participant knows the borders of the protected areas. In order to abide by the village conservation bylaws in each of these three villages, the individuals should understand that permission for commercial use of the forest is needed and also where the protected areas of the forest are. The results, as depicted in the following two charts, show that in the villages of Kitogani and Uzi this knowledge was low, indicating that forest regulation bylaws are not well known or understood.

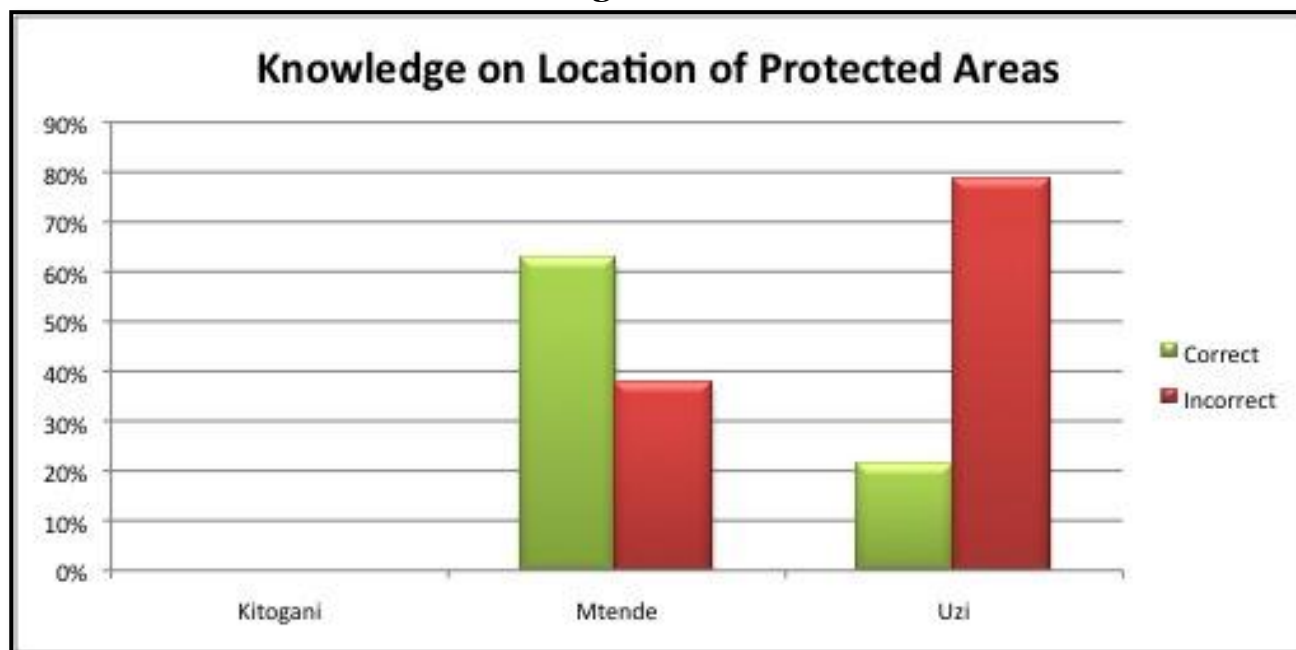
In Mtende, a higher rate of correct answers to the surveyed questions indicates a higher understanding of forest management, amongst VSL members. In reflecting these results with those from the above chart, it is evident that the higher presence of local government in forest management contributes to increased knowledge of forest management, possibly due to an increased local ownership over management and the resulting presence of local discussions. This was also shown through qualitative results, which indicated a strong unified approach to forestry management through high involvement in VCCs and increased awareness about the importance of environmental conservation.

**Figure 6.5**



Source: Author's research findings

Figure 6.6



Source: Author's research findings

This research found that villages where VSL groups were more directly involved in the management of the forests, the corresponding VSL members were more aware of forest management and laws. In areas where there was a strong presence of supporting environmental and government organizations to assist VCCs, the bylaws established were more widely understood and enforced, resulting in stronger environmental management. Although this may seem like an obvious conclusion, this finding reinforces the importance of inclusive representation of VSL groups in forest management, in order to provide a stronger foundation for sustainable development practices.

#### 6.2.4 VSL Membership

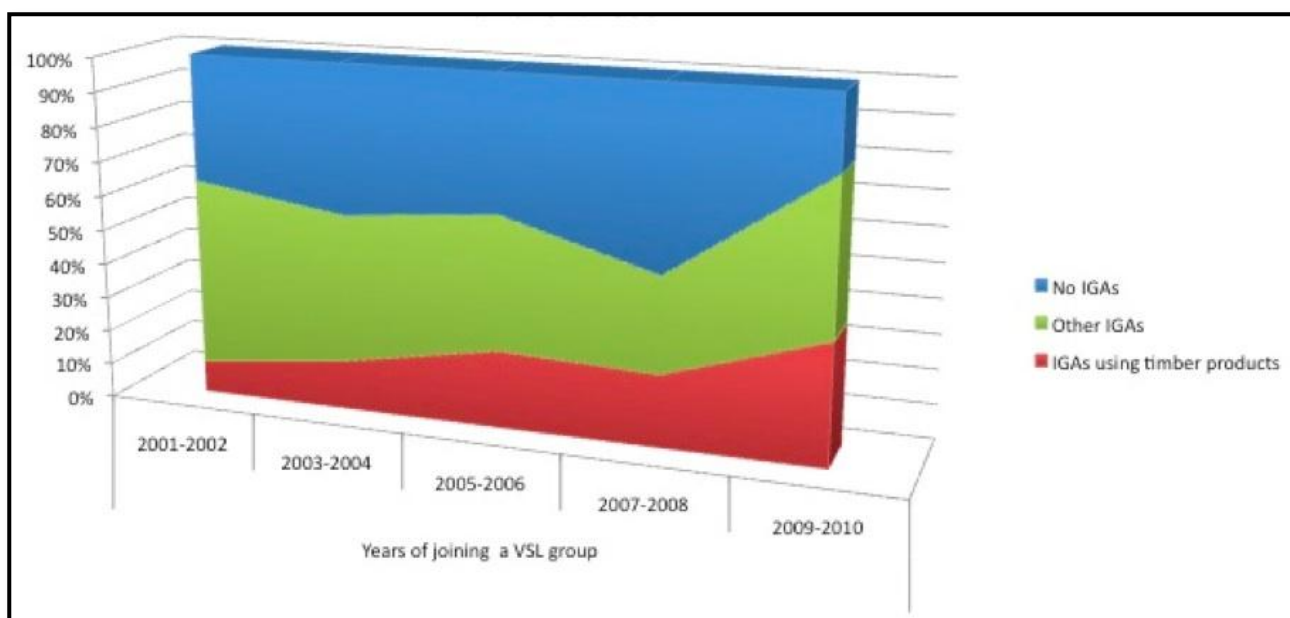
The degree, type and length of involvement in the VSL group are key indicators of how the members choose and practice income generating activities, along with the group dynamics and relationships.

This study identified challenges with the purpose and repayment of loans. "Mohani" is a Swahili word that describes the relationships of a village that allows for each other to live and think as a family. This mentality can make it difficult to enforce rules or deny each other something that they need. This was reflected in members who have been found to be re-lending their loans into the community. This questions the accountability of the end-borrowers, since they are not part of the group. Additionally, it was reported that loans

were often distributed for non-income related activities, such as buying clothes or food. These instances help to account for occurrences of non-repaid loans or the increased practice of forest-related IGAs, as the forest provides an easily accessible source of income.

Both organizational representatives and the VSL members identified the length of VSL membership as a key variable that determines the type of IGAs that are practiced. Organizational representatives stated that in the beginning of the membership, the VSL members usually cut firewood, but then they learn small businesses and quickly are able to use the income from these businesses to generate enough money for paying their shares. Alternatively, the surveys helped to calculate the actual practice of this organizational claim. The following chart uses information from the surveys to display the amount of VSL members who sell firewood and charcoal, in comparison to those who participate in other income generating activities. It should be noted that qualitative evidence from discussions with VSL members disputes the results of the surveys, claiming that the actual number of forest-related IGAs to be higher.

**Figure 6.7 Correlation of VSL Membership and Practice of IGAs Using Timber Products**



Source: Author's research findings

As reported by the surveys and depicted in the chart above, members who have been enrolled in the VSL groups longer, practice less IGAs which directly influence the forest. This is supported by the idea that as a member receives training on alternative business opportunities and gains access to loans; their income behaviors adapt to take advantage of new economic opportunities. Alternatively we see a large representation of members who



claim to practice no IGAs, raising the question of where this money comes from. This research found that these members most likely get support from their family members or generate this income through illegal forest-related IGAs.

### **6.3 TRENDS OF VSL MEMBERS**

**Sub-Question 3:** What have been the changes in IGAs of the members since joining the VSL groups? In answering this, the study identifies trends that define patterns of change.

The two interventions focused upon in this study encourage the adoption of IGAs as an opportunity to substitute for activities that may be not promoting the development of full economic and social capabilities, or which are not conducive to sustaining the natural environment. But what is the reality of the turnover from old to new IGAs and the reasons behind this? From the data collected, two trends of change were revealed. The first trend is the practice of small businesses in replacement of forest-related income activities. The second trend is the increasing of forest-related income activities, in response to weekly payment commitments and also the repayment of loans.

#### **6.3.1 Increased Non-Forest-Related IGAs**

The first of these trends is in the turnover from forest-related activities to non-forest-related small business activities. Both the WEZA and HIMA projects conduct trainings and educational programs, in order to encourage non-forest-related IGAs, which recognize market opportunities, gender sensitivity and environmental conservation. From the perspective of CARE representatives and of community leaders, members are less dependent on forest materials due to the introduction and practice of new income generating activities. This is supported with evidence from the surveys, depicted in the correlation of VSL memberships length to the practice of forest-related IGAs. From this correlation, we see that VSL members who enter the groups reduce their dependency on the forest over time, by replacing forest-related IGAs with non-forest-related IGAs. For the members who successfully start and develop their own businesses, the VSL structure is essential for accessing economic tools that can help with growth alongside of the educational structures that help to equip the members with the knowledge for building

successful businesses.

### **Box 6.1**

#### **Case Study:**

Fatima<sup>3</sup> is a VSL chairperson, who has been involved in VSL groups since they were first introduced in her village in 2002. She is a mother of five and a dedicated wife to her husband, who is a teacher in the village. Fatima is a true entrepreneur, and set up her own juice making and selling business, even before joining the first VSL group. Today, she sells khangas to women in her village. She buys each khanga for Tsh 3500 and sells them for Tsh 3900. She is also a participant of a women's cooperative who makes oils, perfumes and other handicrafts for tourists.

As a VSL leader, she is highly involved with the various projects and organizations that provide training and educational programs regarding IGAs and environmental conservation. She is aware of the laws and regulations concerning forest management, and can be heard shouting in the village at other VSL participants who do not follow the rules. Fatima only uses forest materials for her own consumption, exemplified by her cooking fuel, which she gathers from the forest herself.

Source: Author's research findings

### **6.3.2 Increased Forest-Related IGAs**

This research found the amount of members who are building non-timber-related businesses limited to a group of entrepreneurs, represented by 46% of the surveyed population. Alternatively, 10% of the reported IGAs were timber-related. 44% of the VSL members did not claim any IGAs, however these individuals must also pay their weekly deposits and repay any loans that they take out. The question is then where this money is acquired for this 44%. Qualitative methods, through semi-structured interviews and focus group discussions, were utilized in order to answer this question. As a result, a second turnover trend emerges: the increased use of forest-related IGAs for VSL members.

Focus group discussions with VSL members exemplified this trend, as members explained the shift from the collection of forest materials for small-scale self-consumption to the sale

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<sup>3</sup> The name of this participant has been changed in order to protect her identity

of forest materials as a business opportunity for generating income. When asked, “Where most VSL members obtain the money that is used for payment of VSL weekly shares,” it was reported that the main source of this money was from collection of forest materials, specifically that of cutting firewood and making charcoal, especially during the first year of VSL membership. When asked why small businesses had not taken the place of these forest-related activities, it was told that there was not a strong enough demand to support businesses for all of the members. In conclusion, the discussions inquired how forest-related activities changed after the joining of VSL groups, and on multiple occasions the response was that “before joining the group, they just go [to the forest] to provide the money for food and clothing, but after becoming a member, they go more often in order to get more money for the shares” (Source: author’s research findings).

Loan repayment was found to be a key reason for the increase of forest-related IGAs. “If a loan is taken out for a business activity, then the loan will be repaid using the net profit from that business.” Alternatively, “if a loan is taking out for a home activity, the member will then use forest income generating activities to repay this loan.” Loans for ‘home’ activities were defined as providing for the expenses of food, school fees, weddings, home repair or construction. Loans are limited to a cap of Tsh 50,000 for the first loan. If the first loan is successfully repaid in a timely manner, then the borrower is eligible for larger loans. As loans get larger, it becomes more difficult to repay based on the income generated from woodcutting. The members then commonly begin incorporating the making of charcoal into their income generating activities.

## 7. CONCLUSION AND RECOMMENDATIONS

Economic development plays a unique role in the rural areas of Zanzibar, influencing the local community's dependency on the forest for livelihood strategies. CARE's implementation of VSL groups introduces a system into the community that promotes income generation as a means to build savings, increase local investment and provide for enhanced capabilities of its participants to reach their desired state of well-being. While these interventions promote the socio-economic empowerment of its participants, they often overlook the long-term environmental consequences of their actions. This is especially interesting in Zanzibar, whereby the lush forests are part of an ecosystem that makes Zanzibar one of the top 200 biodiversity hotspots in the world.

This study works to promote a stronger foundation for and development of sustainable strategies for continued socio-economic empowerment that also respect environmental conservation as a priority. The themes discussed throughout this study deal with the income generating activities of VSL members due to the influential role on the participants' interaction with the forests. The exploitation of forest resources for income generation contributes to deforestation and forest degradation that threatens not only the ecosystems themselves, but also the livelihood strategies of future generations. The main focus of this study is as follows:

**Central Research Question:** How do VSL groups interact with and influence the conservation of the forests?

Although VSL groups prove to be conducive for providing environmentally friendly income options, this research indicates that 25.76% of the VSL members openly admitted to consistently practice forest-related IGAs. These activities utilize both timber and non-timber resources, and require close attention from CARE and other involved organizations in order to monitor and manage the environments where they take place. Nearly 10% of the VSL members in this study stated their participation in timber-related IGAs, namely the sale of firewood and charcoal that directly influences forest conservation efforts. As these reported IGAs only account for 56% of the VSL members who were surveyed, additional qualitative methods were used to find that the remaining 44% also uses forest-related activities as a main source of income. These figures show an alarming amount of confirmed and probable reliance on forest resources for income generation. The forest is a

traditional livelihood source in Zanzibar. As VSL groups are introduced they expand the financial opportunities of their participants, which consequently increases the economic responsibility of their members, who must generally find additional sources of income to meet their commitments to purchasing VSL shares. Perhaps it is only natural that the forest is one of the first places these VSL members go to meet this need.

Interviews with organizational representatives showed the shared belief that VSL members benefit from an expansion of sustainable income options. This research found a trend in the survey results, which showed that some VSL members gradually depend on timber-related IGAs less and less, indicating that business development training programs have a positive influence on the development of small business. This promising trend can be expanded through the recognition of variables that positively influence the choice, practice and success of sustainable IGAs. A key promoter of this success, found in this study, is the positive influence of local awareness of environmental conservation through inclusive representation in village conservation committees and increased local ownership over forest management. The identification of additional sustainable market opportunities, mainly connected with the tourism industry, also promoted the success of these IGAs.

Alternatively, the qualitative findings of this research identified a second trend. As a consequence of the increased need for financial capital caused by the weekly VSL share purchases and loan repayments, many VSL members increased their dependence on timber-related IGAs, especially during the first year of VSL membership. This was identified through interviews with VSL members, leaders and community representatives, and helped to account for the unidentified income sources of the 44% of the VSL members who did not list IGAs in the survey.

In moving forward, the WEZA and HIMA projects should acknowledge areas of increased need and stress influential factors that have the potential to decrease unsustainable IGA participation. Consideration of market opportunities caused by unique geographic settings can be incorporated to project areas of success for sustainable IGAs, such as those related to the tourism industry. Proximity to the forest and the forest density should also be considered, as this changes the way and intensity in which the individuals use the forest. Seasonal variations in market demands also affect needs and success of VSL member IGAs, especially for those who primarily participate in agricultural activities as a source of income. This factor should be reflected in IGA trainings by selecting a set or variety of IGAs that would provide a consistent and reliable income throughout the year. Trainings

should also recognize that the Islamic calendar plays a significant role in determining spending patterns, and should teach the VSL members how to prepare for these forecasted expenses.

Additionally, both the HIMA and WEZA projects should keep an understanding of the VSL group characteristics at the center of their strategy. The Loan behavior should be recognized, as loans are commonly taken out for the investment in small businesses, but also for the self-consumption of the member, also known as 'home' activities. This study found a distinct difference in the way these two loan types are repaid; with the main conclusion showing the income needed to repay 'home' activity loans is likely generated from selling cut firewood or charcoal. VSL group characteristics are further defined by the variations within the groups by role and membership length. As members first join the groups, they are often vulnerable to the increase of financial responsibility. Organizational strategies should pay special attention to the income generating habits of these new members, as they have not had sufficient time to be trained on the development of small businesses. Additionally, these members are restricted to the activity of saving for the first months, as loans are not distributed until the third or fourth month of the cycle, indicating that money is only being deposited and is not yet accessible for investment in new IGAs. As a consequence, these members often use the most accessible resource possible for generating the needed income, namely the forest.

Therefore, the question of VSL influence on environmental conservation is answered by the identification of two distinct trends and their key influential variables. The overlap of the WEZA and HIMA projects, through VSL groups, provides a key opportunity for creating sustainable strategies that compliment and promote each other's goals. Influential economic development interventions, such as WEZA, expand their participants' financial options and thus their socio-economic capabilities to reach their desired state of well-being. Their daily lives are transformed, as their livelihood strategies adapt to meet the needs of new commitments and expanded goals. The VSL groups supply an access point for both projects to train and educate the members on IGAs. This provides the opportunity to influence the daily habits and behaviors of the participants, particularly in regards to their interaction with the forests.

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Photographs used on front and back cover were taken by the author, in Zanzibar Tanzania, during the time in which this research took place.

## **9. APPENDIX**

### **A.1 INTRODUCTION FOR QUALITATIVE METHODS**

#### Swahili:

Hoja hii inaongoza kwa niaba ya Marcy Hollar, mwanafunzi ambao sasa wanakaa Zanzibar ili kufanya utafiti kuhusu misitu, mazingira, mradi wa HIMA na mradi wa WEZA. Yeye ni kuandika Thesis (riporti) kila moja juu ya maoni ya watu waliokuwa wakiishi katika Zanzibar. Katika ripoti hii, atakuwa kama kujibu "jinsi makundi VSL kiutendaji na msitu" na "jinsi VSL makundi ushawishi wa misitu ya hifadhi."

Leo, amekuwa hapa ili kuuliza maswali kuhusu nyumba yangu, watu wa nyumbani, na wako shehia. Kama hutaki kujibu swali lo lote au maswali yote, unaweza kukataa bila ya kusema kwa nini, lakini, tunatumaini msaada wako.

Kama anatumia habari ambazo utatupa leo, utambulishi wa watu wa nyumbani italinda. Kama umeshajibu hoja hii, tafadhali utuambie.

#### English:

This point leads on behalf of Marcy Hollar, a student who now is in Zanzibar to do research on forestry, environment, the HIMA project and the WEZA. She is writing a thesis (report) on the views of people who lived in Zanzibar. In this report, she would like to answer "how VSL groups interact with the forest" and "how VSL groups influence forest conservation"

Today, she is here to ask questions about you, your home and your village. If you do not want to answer any question or all questions, you may refuse without saying why, but we hope for your help.

If she uses the information that you provide today, she will protect your identity and that of the house. If you have any arguments, please tell us.

### **A.2 SEMI-STRUCTURED INTERVIEW QUESTIONS FOR COMMUNITY LEADERS**

Introduction: This is a questionnaire for the Sheha of the selected research sites, which will help me to understand the issues of VSL groups and forest conservation efforts in your shehia. I will use this information in the formulation of my Master's thesis with Utrecht University, and also for a report for CARE.

#### **Overview of the shehia**

- Number of houses in all of the shehia
- Number of inhabitants in all of the shehia (if possible please specify by men, women and children)

#### **The sheha leader**

- Years of being sheha
- What do you see as the most important responsibilities of a sheha leader?
- How is the sheha involved in land use matters and forest conservation in particular?

### **The VSL groups**

- Are you familiar with the VSL group(s)?
- Are you a member of any VSL group? If so, which one?
- Who initiated the first VSL group in your shehia?
- In what year did the first VSL group in your shehia begin?
- Do you know how many VSL groups there are in your shehia?
- In what way has the VSL group(s) affected this village?
- Do you think that most people in Uzi know of the VSL group? What is their opinion?

### **Forest Conservation**

- What are the different organizations involved in the conservation of the forest in your shehia?
- Is forest conservation an important issue in your shehia?
- Have you witnessed any changes in the way that the shehia uses the forest?
- Is there a particular group of people (or even certain individuals) who are very dependent on forests (collection/processing/trading)?
- Have you witnessed any climate changes around this village?
- Are you familiar with the HIMA project?
- In what year did the HIMA project in your shehia begin?
- In what way has the HIMA project affected this village?
- Do you think that most people in your shehia know of the HIMA project? What is their opinion?
- Do you know what MKUHUMI (Mpango wa Kupunguza Uzalihaji wa Hewa Ukaa kutokana na ukataji miti na Uharibifu wa Mimitu, REDD in English, is)?
- Have you witnessed any climate changes around this village?

### **Permission**

Request for permission to do a questionnaire of households in all of your shehia with VSL members (possibly only specific parts) – to be done mostly by two Zanzibarian assistants, information will only be used in a way that protects the identities of the interviewees.

## **A.3 FOCUS GROUP DISCUSSIONS**

### **Locality Mapping: (WUR-2009)**

Ask the individual or the group to draw the boundaries of the geographic unit being discussed. Participants can decide how they want to represent this – on paper with writing or using local materials such as sticks, stones or seeds. Remember that whatever material is chosen, you will always need a paper-based copy to enable comparative analysis. If it adds to the discussion, three-dimensional elements can

be added, transforming the map into a model that emphasises landscape-level aspects of issues.

Ask the participants to draw the outline of the local area, for example, roads, towns, rivers and property boundaries. One way to do this, if you have the proper resources, is to project an overhead map onto a large sheet of paper and then to trace the required information.

forest, dump, shop, farms, organizations, roads, where is fire wood collected, sold, types of trees

Having prepared the map, which could be as large as a wall, people can then add their information either directly or by using sticky notes. Let them record what is most significant to them, and then ask for more detail if something you are interested in is missing. One use of a sketch map is for social mapping of household levels of well-being.

Several modifications to the map may be needed before those involved are happy with the final result. Include additional written comments such as quantities of interest, if necessary.

Once a "base" map has been made, subsequent meetings can use it to make comparisons.

### **Seasonal Calender: (FAO)**

A seasonal calendar is a participatory tool to explore seasonal changes. This tool is used to learn about changes in livelihoods over the year and to show the seasonality of agricultural and non-agricultural workload, food availability, human diseases, gender-specific income and expenditure, water, forage, credit and holidays.

Ask the group to find a large open and comfortable space. For the VSL groups, this will be done in groups of women, in order to respect the gender sensitive power relations.

On a large sheet of paper, draw a matrix with 14 lines, each of which has 12 ticks to represent each month of the year. According to the different variables, have the women put stones on each month of the calendar to represent relative amounts of rainfall (starting with rainfall provides an easily understood example to build upon, with more stones meaning more rainfall).

Move to the next topic and ask people during which month the food is usually scarce. Discuss the reasons why it is scarce and make sure that the different kind of food donations that people receive are discussed and that this information is shown in the map.

5. Go on like this, meaning topic by topic. After finishing all the columns your matrix should have covered the following 14 topics:

- (1) Rainfall
- (2) Food scarcity (*many stones means less food available, indicate during which time people receive food donations (e.g. food for work)*)
- (3) Income (cash and kind) for women
- (4) Income (cash and kind) for men
- (5) Expenditure for men
- (6) Expenditure for women?
- (7) water availability for human consumption
- (8) livestock forage availability

- (9) credit availability
- (10) number of holiday days
- (11) agricultural work load for women
- (12) agricultural work load for men
- (13) non-agricultural work load for women
- (14) non-agricultural work load for women

After the calendar is finished ask the group which linkages they see among the different topics of the calendar. Encourage the group to discuss what they see on the calendar.

### **Semi-Structured Questions for the Focus Groups:**

#### *VSL Group overview:*

- How has being in a VSL group changed...
  - sources of income?
  - how you handle money?
  - financial security?
  - the local market or economy?
- Where do VSL members get the money that they use for their shares?
- Where do VSL members get the money that they use to repay loans?
- What are the benefits of the VSL groups?
- What are the problems of the VSL groups?

#### *Interaction with the forest:*

- How does the local community use the forest?
- Do men or women go to the forest more often? Why?
- Do VSL group members go to the forest more often than non-VSL members? Why?
- Has being in a VSL group changed the manner in which you use the forest?
  - how often you go?
  - the types of products?
  - how you get these products? cutting or gathering?

## **A.4 INSTRUCTIONS FOR SURVEY**

**Objective:** To answer the following questions by conducting this questionnaire: How do VSL members interact with the forests? Is this different from non-VSL members? How has joining a VSL group changed the ways in which they interact with the forest?

**Respondent Criteria:** The respondents for the questionnaire must be VSL members. They may be men or women. They must represent all available VSL groups in [VILLAGE NAME]. No two respondents should be living in the same household.

**Informed Consent:** Each interview must begin with asking for their consent. The following must be explained:

*I am collecting some information about VSL members, their economic activities and how they use the forest. I am collecting this information for a student from the Netherlands, named Marcy Hollar, who is working with a local organization called CARE International.*

*I would like to ask you some questions. Is that possible?*

*All the information you will give, will be used in a good way and if there are questions you do not want to answers, you are free to do so. It is also very important that you know that your identity will be kept secret.*

I appreciate your honesty in answering these questions. Can I have 20-30 minutes of your time?

**Responses:** All responses are to be recorded on the questionnaire. Please be as descriptive as possible and include any and all relevant information. Answers must be recorded in legible handwriting. Answers may be recorded in Swahili or English, but preferably in English.

## A.5 SURVEY

|                                                                |  |                 |  |
|----------------------------------------------------------------|--|-----------------|--|
| <b>METADATA</b>                                                |  | <b>LOCATION</b> |  |
| INTERVIEW DATE mm/dd/yyyy                                      |  | ISLAND          |  |
|                                                                |  | DISTRICT        |  |
|                                                                |  | SHEHIA          |  |
| <b>FIELD STAFF</b>                                             |  |                 |  |
| NAME OF INTERVIEWER                                            |  |                 |  |
| NAME OF TRANSLATOR                                             |  |                 |  |
| <b>RESPONDENT NAME</b>                                         |  |                 |  |
|                                                                |  |                 |  |
| <b>OTHER MEMBERS OF THE HOUSEHOLD PRESENT AT THE INTERVIEW</b> |  |                 |  |
|                                                                |  |                 |  |
|                                                                |  |                 |  |

**Dear Sir or Madam:** I am collecting some information about VSL members, their economic activities and how they use the forest. I am collecting this information for a student from the Netherlands, named Marcy Hollar, who is working with a local organization called CARE International.

I would like to ask you some questions. Is that possible?

All the information you will give will be used in a good way and if there are questions you do not want to answer, you are free to do so. It is also very important that you know that your identity will be kept secret. I appreciate your honesty in answering these questions. Can I have 20-30 minutes of your time?

**1: INTERVIEWEE DATA**

| 1, 1                                                    | 1, 2        | 1, 3  | 1, 4                                 | 1, 5                    | 1, 6                                                            | 1, 7                   | 1, 8                    |
|---------------------------------------------------------|-------------|-------|--------------------------------------|-------------------------|-----------------------------------------------------------------|------------------------|-------------------------|
| What is your relationship to the head of the household? | GENDER      | AGE   | What is your present marital status? | Can you read and write? | What is the highest level of education that you have completed? | What is your religion? | What is your ethnicity? |
| HEAD ..... 1                                            | MALE..... 1 |       | MARRIED ..... 1                      | Illiterate ..... 1      | Primary ..... 1                                                 | Muslim ..... 1         | Zanzibari..... 1        |
| WIFE/ HUSBAND ..... 2                                   | FEMALE.. 2  |       | DIVORCED ..... 2                     | Write only ..... 2      | Secondary ..... 2                                               | Christian ..... 2      | Other (SPECIFY)... 2    |
| OTHER (SPECIFY) ..... 3                                 |             |       | SEPARATED ..... 3                    | Read only ..... 3       | Tertiary ..... 3                                                | Other (SPECIFY)..... 3 |                         |
|                                                         |             |       | WIDOW/WIDOWER 4                      | Read and write ..... 4  | Higher Education .... 4                                         |                        |                         |
|                                                         |             |       | NEVER MARRIED ... 5                  |                         | Adult Education ..... 5                                         |                        |                         |
| CODE                                                    | CODE        | YEARS | CODE                                 | CODE                    | CODE                                                            | CODE                   | CODE                    |

| 1, 9                                     | 1, 10                                          | 1, 11                                       | 1, 12                                                                |
|------------------------------------------|------------------------------------------------|---------------------------------------------|----------------------------------------------------------------------|
| What is your current employment status?  | If you are employed, what is your primary job? | What is your monthly income from this work? | Did you access any of the following income sources in the past year? |
| Self-employed (informal) ..... 1         | Agriculture ..... 1                            |                                             | Pensions..... 1                                                      |
| Self-employed (formal) ..... 2           | Tourism ..... 2                                |                                             | Child support ..... 2                                                |
| Employed, private (formal) ..... 3       | Teacher ..... 3                                |                                             | Social security ..... 3                                              |
| Employed, private (informal) ..... 4     | Fishing..... 4                                 |                                             | Food aid ..... 4                                                     |
| Employed, public sector ..... 5          | Carpentry ..... 5                              |                                             | Other Support (SPECIFY) ..... 5                                      |
| Daily worker ..... 6                     | Sales/Trade..... 6                             |                                             |                                                                      |
| Unpaid family worker ..... 7             | Livestock keeping ..... 7                      |                                             |                                                                      |
| Unemployed but actively looking for work | Civil servant ..... 8                          |                                             |                                                                      |
| Not working ..... 9                      | Seaweed Farming.... 9                          |                                             |                                                                      |
| Other (specify) ..... 0                  | Other (specify) ..... 0                        |                                             |                                                                      |
| CODE                                     | TYPE                                           | AMOUNT                                      | TYPE                                                                 |

**1, 13** Do you have any other income generating activities or jobs?

YES..... 1  
NO..... 2

**1, 14** If so, please list the top three income generating activities or jobs other than your main occupation and your monthly income from this job

1 .....INCOME:.....  
2 .....INCOME:.....  
3 .....INCOME:.....

**1, 15** Has your employment changed since joining the VSL group? **\*If YES, please explain HOW?**

.....  
.....

**1, 16** Have your other income generating activities changed since joining the VSL group? **\*If YES, please explain HOW?**

.....  
.....



| 2: HOUSEHOLD DATA                                                                         |                                                                           |                                                                         |                                                                      |                                                                            |                                                            |
|-------------------------------------------------------------------------------------------|---------------------------------------------------------------------------|-------------------------------------------------------------------------|----------------------------------------------------------------------|----------------------------------------------------------------------------|------------------------------------------------------------|
| 2, 1                                                                                      | 2, 2                                                                      | 2, 3                                                                    | 2, 4                                                                 | 2, 5                                                                       | 2, 6                                                       |
| How many individuals live in your household (for at least 9 months out of the last year)? | How many children (18 years or younger) currently live in this household? | How many adults (above the age of 18) currently live in this household? | How many members of this household are currently enrolled in school? | How much do you spend on education fees per year for the entire household? | How many members of this household are currently employed? |
| AMOUNT                                                                                    | AMOUNT                                                                    |                                                                         | CODE                                                                 | YEARS                                                                      | CODE                                                       |
|                                                                                           |                                                                           |                                                                         |                                                                      |                                                                            |                                                            |

2, 7 What sources of cooking fuel do you use? LIST ALL

- Wood.....1
- Charcoal.....2
- Paraffin.....3
- Electricity.....4
- Bottled Gas.....5
- Other (SPECIFY).....6:.....

2, 8 How much cooking fuel do you use in one week? SPECIFY UNIT AND TYPE

.....  
 .....

2, 9 Where do you acquire these sources of cooking fuel?

.....

2, 10 How do you acquire these sources of cooking fuel?

.....

| 2, 11 | What materials were used in the construction of this dwelling? | Where were these materials obtained? |
|-------|----------------------------------------------------------------|--------------------------------------|
| Walls |                                                                |                                      |
| Roof  |                                                                |                                      |
| Floor |                                                                |                                      |

2, 12 Does your household have electricity?

- YES.....1
- NO..... 2

2, 13 What is your main source of water? .....

|                       | 2, 14                                                           | 2, 15                                   | 2, 16                                                 |
|-----------------------|-----------------------------------------------------------------|-----------------------------------------|-------------------------------------------------------|
|                       | Does your household own any of the following? YES...1<br>NO...2 | How many do you own?<br>NUMBER OF ITEMS | When did you acquire these items?<br>APPROXIMATE YEAR |
| Radio                 |                                                                 |                                         |                                                       |
| Television            |                                                                 |                                         |                                                       |
| Mobile Phone          |                                                                 |                                         |                                                       |
| Boat                  |                                                                 |                                         |                                                       |
| Canoe                 |                                                                 |                                         |                                                       |
| Dhow                  |                                                                 |                                         |                                                       |
| Bicycle               |                                                                 |                                         |                                                       |
| Motorcycle or scooter |                                                                 |                                         |                                                       |
| Cart                  |                                                                 |                                         |                                                       |
| Cows                  |                                                                 |                                         |                                                       |
| Sheep                 |                                                                 |                                         |                                                       |
| Goats                 |                                                                 |                                         |                                                       |
| Chickens              |                                                                 |                                         |                                                       |
| Ducks                 |                                                                 |                                         |                                                       |
| Tractor               |                                                                 |                                         |                                                       |
| Hoe                   |                                                                 |                                         |                                                       |
| Plough                |                                                                 |                                         |                                                       |
| Refrigerator          |                                                                 |                                         |                                                       |

2, 18 Do you produce any agricultural products for self-consumption?

YES.....1

NO.....2

2, 19 Do you produce any agricultural products for commercial use?

YES.....1

NO.....2

**\*If YES, What is your yearly income from these products?**

.....

2, 20 How many hectares is your agricultural land?

.....

2, 21 How did you clear this land?

.....

.....

.....

2, 22 Approximately what year did you do this? .....

**3: VSL INVOLVEMENT**

| 3, 1                                        | 3, 2                                      | 3, 3                                            | 3, 4                                                   | 3, 5                                                                  | 3, 6                                          | 3, 7                                        | 3, 8                                                                                     | 3, 9                                                                     |
|---------------------------------------------|-------------------------------------------|-------------------------------------------------|--------------------------------------------------------|-----------------------------------------------------------------------|-----------------------------------------------|---------------------------------------------|------------------------------------------------------------------------------------------|--------------------------------------------------------------------------|
| What position do you hold in the VSL group? | How long have you been a member of a VSL? | What was the amount of your most recent payout? | How much did you deposit into the VSL group last week? | How much did you deposit into the VSL per week when you first joined? | What was the amount of your most recent loan? | What did you do with your most recent loan? | Were you able to re-pay your most recent loan in full?<br><br>*If NO, specify the reason | Do you use any additional financial services?<br><br>*If NO, leave blank |
| Member ..... 1                              |                                           |                                                 |                                                        |                                                                       |                                               | Food ..... 1                                | Yes 1                                                                                    | Womens Association 1                                                     |
| Chairperson ..... 2                         |                                           |                                                 |                                                        |                                                                       |                                               | School fees ..... 2                         | No 2                                                                                     | SACCO ..... 2                                                            |
| Secretary..... 3                            |                                           |                                                 |                                                        |                                                                       |                                               | Home repair or improvement..... 3           |                                                                                          | ROSCA ..... 3                                                            |
| Box- Keeper ..... 4                         |                                           |                                                 |                                                        |                                                                       |                                               | Buying land ..... 4                         |                                                                                          | Community Bank ..... 4                                                   |
| Money Counter 5                             |                                           |                                                 |                                                        |                                                                       |                                               | For an existing commercial activity 5       |                                                                                          | Mobile Banking (M-Pesa or Z-Pesa) 5                                      |
| Key Holders..... 6                          |                                           |                                                 |                                                        |                                                                       |                                               | To introduce a new commercial activity 6    |                                                                                          | Formal Bank ..... 6                                                      |
| Other (SPECIFY)... 7                        |                                           |                                                 |                                                        |                                                                       |                                               | Other (SPECIFY) ..... 7                     |                                                                                          | Other (SPECIFY) ..... 7                                                  |
| CODE                                        | MONTHS/YEARS                              | AMOUNT                                          | AMOUNT                                                 | AMOUNT                                                                | AMOUNT                                        | CODE                                        | CODE                                                                                     | CODE                                                                     |
|                                             |                                           |                                                 |                                                        |                                                                       |                                               |                                             |                                                                                          |                                                                          |

3, 10 What is the name of your VSL group?  
.....

3, 11 How do you pay for the shares that you buy each week?  
.....

**4: INTERACTION WITH FORESTS**

**4, 1** What is the distance from your household to the forest?

In Kilometers: .....

**4, 2** How often do you go to the forest? .....

**4, 3** Do members of VSL groups use the forest for commercial uses more or less than non-members in this village?

More.....1

Less.....2

The Same.....3

I don't know.....4

**\*If Answer was MORE or LESS, please explain why.....**

.....

.....

.....

.....

.....

| 4, 5                                                             | 4, 6                                       | 4, 7                                                   | 4, 8                                                       | 4, 9                                                                  |
|------------------------------------------------------------------|--------------------------------------------|--------------------------------------------------------|------------------------------------------------------------|-----------------------------------------------------------------------|
| What types of materials do you collect from the forest/mangrove? | How much did you collect in the past week? | How much of these items did you sell in the past week? | What was your total income for each item in the last week? | How many hours did you spend collecting these items in the past week? |
| Dried/Fallen Firewood                                            | 1                                          | SPECIFY UNIT                                           |                                                            |                                                                       |
| Cut Firewood                                                     | 2                                          |                                                        |                                                            |                                                                       |
| Charcoal                                                         | 3                                          |                                                        |                                                            |                                                                       |
| Poles                                                            | 4                                          |                                                        |                                                            |                                                                       |
| Timber                                                           | 5                                          |                                                        |                                                            |                                                                       |
| Other (SPECIFY)                                                  | 6                                          |                                                        |                                                            |                                                                       |
| CODE                                                             | AMOUNT                                     | AMOUNT (PER UNIT)                                      | AMOUNT                                                     | AMOUNT                                                                |
|                                                                  |                                            |                                                        |                                                            |                                                                       |
|                                                                  |                                            |                                                        |                                                            |                                                                       |
|                                                                  |                                            |                                                        |                                                            |                                                                       |
|                                                                  |                                            |                                                        |                                                            |                                                                       |
|                                                                  |                                            |                                                        |                                                            |                                                                       |
|                                                                  |                                            |                                                        |                                                            |                                                                       |
|                                                                  |                                            |                                                        |                                                            |                                                                       |

4, 10 Did you collect different forest products in the past?

YES.....1

NO.....2

\*If yes, explain what products were different.....  
 .....

If yes, why did this change

- Availability
- Quality
- Government regulations
- Change in needs
- Advice by Sheha
- Advice by other: SPECIFY who: .....
- Other (SPECIFY): .....

4, 4 Who is responsible for the management of the forests near by your village?  
 Combination (please list ALL responsible parties)

Government institutions..... 1

Local government ..... 2

Village Conservation Committee ... 3

NGOs ..... 4

Sheha.....5

Other (SPECIFY).....6.....

4, 12 Is there any procedure one has to do in order to get permission to harvest products from the forest for commercial purposes?

YES.....1

NO.....2

\*If YES, please explain.....  
 .....

4, 13 Do you know where the boarders of the protected areas exactly are?

YES.....1

NO.....2

4, 14 To what extent are you familiar with the following projects:

|                |  |
|----------------|--|
| HIMA           |  |
| WEZA           |  |
| MKUHUMI / REDD |  |
| JOCDO          |  |

Very Familiar.....1

Familiar.....2

Not Familiar.....3





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