

**AN EVALUATION OF THE GREEN SCHEME PROGRAMME: A
CASE OF THE KALIMBEZA RICE PROJECT.**

by
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DECLARATION

By submitting this research report in an electronic form, I, Joseph Kamwi Subasubani, declare that this is my own unaided work. The sources used in the report have been acknowledged and properly referenced. This study in whole or part has never been submitted to any other university for academic examination.

Joseph Kamwi Subasubani

Date

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ABSTRACT

Approximately three out of four people in developing countries such as Namibia live in rural areas. The majority of these rural poor's livelihoods depend directly or indirectly on agriculture. Therefore, there is an urgent need to design agricultural programmes that focus on rural communities in order to reduce incidences of poverty. Although the Namibian Government invests in the agricultural sector, hunger for both humans and animals were evident in 2012. The starvation situation was worsened by high food prices, compounded with a high unemployment rate that meant the majority of the population could not afford to pay for food. Evidence shows that Namibia is a net food importer; meaning that less local food production is taking place. Therefore, the government is trying to reverse the situation of relying on imported food, by enhancing local production, and one of the ways of achieving this goal is through the Green Scheme Programme.

The research problem of this study is defined as follows: *“An evaluation of the Green Scheme Programme: A case of the Kalimbeza Rice Project”*.

The study commences by exploring the literature on the role of the state in improving the socio-economic status of its citizens. Many developing countries have weak private sectors; therefore, governments remain with the responsibility to spearhead development. With unrestrained unemployment, poverty and inequality, state-led development is the solution in uplifting the socio-economic status of people, especially the rural poor. Since the rural poor depend on agriculture for their livelihoods, it is necessary for Government to devise Sustainable Livelihood programmes in the sector, which many people rely upon for survival. Reducing incidences of rural poverty calls for Sustainable Livelihood programmes that the Namibian Government came up with, such as the approximately N\$ 1.2 billion per annum Green Scheme Programme. This is an irrigation programme that aims at increasing agricultural production, contribute to the Gross Domestic Product, promote food security, create jobs and promote skills development. The study sought to establish whether the Green Scheme Programme is effective in achieving its intended, and at times, unintended goals. The Kalimbeza Rice Project, under the Green Scheme Programme was chosen as a case study.

Evidence from the study shows that employment creation took place, because many locals have secured temporary jobs at the farm, and the salaries earned have had a positive impacts on their lives. Food security has not been fully achieved, as only about 25 per cent of the total farm area is cultivated yearly. Finally, the study suggests that there is an urgent need for the Green Scheme Programme and all its projects to speed operations in order to achieve the country's Vision 2030.

OPSOMMING

Ongeveer drie uit elke vier mense in 'n ontwikkelende land soos Namibië is woonagtig in landelike gebiede. Die meerderheid van landelike armes se inkomste is direk of indirek afhanklik van landbou aktiwiteite. Dus, is daar 'n dringende behoefte aan landbou ontwikkelingsprogramme wat spesifiek fokus op landelike gemeenskappe om sodoende die voorkoms van armoede te verminder. Alhoewel die Namibiese regering belê in die landbousektor, was lae vlakke van voedselsekuriteit vir beide mens en dier nogsteeds sigbaar in 2012. Die kroniese hongerte situasie in Namibië word grotendeels verger deur hoë voedselpryse. 'n Hoë werkloosheidsyfer dra ook daartoe by dat die meerderheid armes nie voedsel kan bekostig nie. Navorsing toon dat Namibië 'n netto invoerder is van kos. Dit beteken dat Namibië minder plaaslik voedsel produseer. Gevolglik, probeer die Namibiese regering die afhanklikheid op ingevoerde voedsel verminder deur die verbetering van plaaslike produksie vermoëns. Een van die maniere wat hulle gebruik om dit te bewerkstellig is deur die regering se Green Scheme Program.

Die navorsingsprobleem van dié studie word as volg gedefinieer: 'n Evaluering van die Green Scheme Program: Die Kalimbeza Rice Project as gevallestudie.

Die vertrekpunt van dié studie begin deur die verkenning van literatuur wat spesifiek handel oor die rol van die staat in die verbetering van die sosio-ekonomiese status van sy burgers. Baie ontwikkelende lande het swak of klein privaat sektore, dus bly regerings verantwoordelik om ontwikkeling moontlik te maak. Ongebreidelde werkloosheid, armoede en ongelykheid noodsaak staat geleide ontwikkeling as die enigste oplossing vir die opheffing van die sosio-ekonomiese status van mense, veral landelike armes. Die feit dat landelike armes grotendeels afhanklik is van landbou vir inkomstes en oorlewing, is dit nodig vir die regering om 'n Volhoubare Lewensbestaan Program te ontwikkel in die sektor, waarop baie mense aangewese is vir oorlewing. Die vermindering van voorvalle van landelike armoede kan toegeskryf word aan die Volhoubare Lewensbestaan Program wat deur die Namibiese regering geïmplementeer word, soos die ongeveer N\$ 1.2 biljoen per jaar Green Scheme Program. Dit is 'n besproeiingstelsel program wat verhoogde landbouproduksie ten doel het, as ook bydra tot die Bruto Binnelandse Produk, bevordering van voedselsekuriteit, werkskepping en die bevordering van vaardighedsontwikkeling. Dié studie sal poog om vas te stel of die Green Scheme Program

effektief is in die bereiking van beoogde doelwitte, en by tye, die bereiking van onvoorsiene doelwitte. Die Kalimbeza Rice Project, as deel van die Green Scheme Program, sal dien as n gevallestudie.

Getuienis van die studie toon dat werkskepping wel plaasgevind het, omdat baie plaaslike inwoners tydelik in diens geneem is op die plaas, en die salarisse ontvang het alreeds 'n positiewe effek gehad op hul lewens. Voedsel sekuriteit is nog nie ten volle verwesenlik nie, omdat slegs 25% van die totale plaas oppervlakte onder verbouing is. Gevolglik, dui die studie daarop dat daar 'n onmiddellike behoefte bestaan vir die Green Scheme Program en al sy onderskeie projekte om sodoende pogings te versnel in die bereiking van die land se Visie 2030.

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LIST OF ABBREVIATIONS

| | |
|-----|----------------------------|
| DS | - DEVELOPMENTAL STATE |
| GDP | -GROSS DOMESTIC PROGRAMME |
| GSP | -GREEN SCHEME PROGRAMME |
| NDP | -NATIONAL DEVELOPMENT PLAN |

CHAPTER 1

RESEARCH PROPOSAL

1. 1 BACKGROUND TO THE PROPOSED STUDY

Adesina (2007: 2) wrote that “*there has been no other time in Africa’s four decades of post-colonial statehood, than now when crisis of social development seems so pervasive*”. The above statement clearly indicates that many countries in the Sub-Saharan African region have numbers of people living below the poverty line, poor education systems, stagnant or declining per capita national growth, wars and diseases (Adesina, 2007: 3). With all the above-mentioned predicaments, the role of the state becomes central to crisis alleviation. The state becomes central as “*development was the name of a national liberation project led by the state*” (Neocosmos, 2010: 535). Therefore, state-led socio-economic development can, and could have been, achieved if Sub-Saharan African states used the ideology of a Developmental State (DS) for the benefit of the people instead of for political reasons.

The role of the state in uplifting the socio-economic levels of its people is clearly explained by the United Nations Economic and Social Council (2013: 1) as follows: “*the state is undeniably the most important socio-economic and political institution in the society*”. People view the state as the main provider of all goods and services that are essential to their lives. Many states fail to fulfil this responsibility because of “*the ability of the state and its functions to perform its functions and fulfil its multiple roles has varied over time and space*” (United Nations Economic and Social Council, 2013: 1). Any weakness in the state’s desire to perform its functions, will impact negatively on the socio-economic status of the people.

African states modelled the ideology of developmental states from East Asian countries, and the element that made the system a success in East Asia, is that the developmental state’s major “*preoccupation is to ensure sustained economic growth and development on the back of high rates of accumulation, industrialisation and structural change*” (UNCTAD, 2007: 61). Apart from South Africa, there is slow industrialisation taking place in the Sub-Saharan African region. A slow industrialisation process leads to a widening socio-economic gap among countries in Sub-Saharan Africa, Western countries and East Asian countries.

State-led development is made up of centralised authority, is sometimes confused with authoritarian type of governance. As explained by Kim (1993: 40) that “*not all developmental states are authoritarian (e.g. Brazil) and not all authoritarian states are developmental*”. It is important for some African states, whose pro-market reforms have failed, to spearhead socio-economic development to rather adopt the developmental state route. As observed in Nigeria, so many other African states’ economies “*combined with other non-economic factors have produced a weak private sector*” (Ezema and Ogujiuba, 2012: 1). As weak private sectors are evident in many developing countries, it is up to the state to strengthen and modernize the technological basis; and to upgrade, maintain, and provide more infrastructure (Ezema and Ogujiuba, 2012: 1).

State-led development is not new to African countries as many countries, upon independence, were characterised by state-led developmental practices. The result was rapid improvement in the socio-economic status in the short run, but many states failed to provide sustained progress (Meynes & Musamba, 2010: 21-7). State-led development failed due to rampant corruption; weak, outdated, inflexible and externally dependent technology, and partly due to vicissitudes of world markets (Meynes & Musamba, 2010: 7 & Ezema and Ogujiuba, 2012:1). To sum up: state led development, or the concept of a developmental state, has found it hard to take shape due to lack of adequate state capacity.

In order for developmental states to achieve their own socio-economic development, the following four features must be considered: development-oriented political leadership, autonomous and effective bureaucracy, production-oriented private sector; and performance-oriented governance (Meynes & Musamba, 2010: 21-25). It is therefore imperative that African states, aspiring or forced by situations to adopt the developmental state and then focus on “*identifying the necessary governance, economic and social conditions that would make the implementation of the developmental state feasible in non-East Asian regions*” (Meynes & Musamba, 2010: 11).

As developing countries face high rates of unemployment, poverty and inequality, a developmental state is needed for rapid employment creation, food security, and Growth

Domestic Product growth to take place. Developing countries must be their own champions of development. As explained by Ezema and Ogujiuba (2012: 3), African states do not have the capabilities for the return of capital in higher investments. It is consequently crucial for rapid industrialisation of some sectors. In this study, state-led development of the agricultural sector will be looked at. It is important that countries in the developing world ensure that food security for all is achieved, as explained by Desai and Potter (2002: 147) that “*food security in the developing world must not come to be dependent on surpluses from the industrialized countries or, worse food aid*”. The emphasis here is put on countries to meet nutritional needs of their people through local production food.

It is clear in Namibia’s Fourth National Development Plan (NDP), two points of what the nation wants to cherish stand out as major factors towards achieving a Developmental State, and these are: Capacity enhancement and people-centred economic development (Republic of Namibia, 2012: 4). Earlier in this section, it was discussed how lack of human and institutional capacity prevents the effective implementation of the concept of a Development State. Enhancing the capacity of the people will enable successful implementation of a Developmental State, because this is an acceptance that “*Namibia’s inhabitants are the country’s most important resource*” (Republic of Namibia, 2012: 4). People-centred economic development puts the country’s activities to focus on the welfare of the people, therefore, leading to state-led development. As explained in the Fourth National Development Plan that “*human development and equitable growth will result in an expanding industrial sector, a modernised agricultural sector, and an enabling macro-economic and political environment*” (Republic of Namibia, 2012: 4). The above-mentioned outcomes of people-centred economic development are fundamental for an effective Developmental State.

State-led development is evident in Namibia, in that the institutional environment has been supportive of economic development and the political environment has been stable ever since independence (Republic of Namibia, 2012: 36). As much as the country is trying to adopt the developmental approach, there are challenges along the way such as: macroeconomic instability; bad business environment reform; lack of access to land, skills and finance; undesirable labour levels; poor public service delivery; and bad cooperation between public and private sector (Republic of Namibia, 2012: 36-38). It is necessary therefore, to pay attention to the above

mentioned shortcomings in order for state-led socio-economic development to be a success. In this study, state-led socio-economic development focuses on a Government intervention called the Green Scheme Programme (GSP).

The Green Scheme is a state-led socio-economic development agricultural programme, and “*in spite of Government efforts and potential associated with agriculture, the performance of the sector has been substandard as a result of many factors*” (Republic of Namibia, 2012: 106). To put this into perspective, Namibia imports more than half of its cereal and horticulture products (Republic of Namibia, 2012: 106). Importing more than half of what is consumed locally is not socially or economically sustainable, leading the Government to intervene through state-led developmental programmes. The Government stresses that agriculture is key for livelihoods and has “*the untapped potential of the sector to create jobs and develop skills*” (Republic of Namibia, 2012: 106). The potential that agriculture has in improving the socio-economic positions of the people has bound the government to support the sector.

Namibia as a country has not been left behind in the adoption of the Green Revolution and has come up with the Green Scheme Programme as a food shortage as well as an employment intervention. Namibia’s Green Scheme Programme has a total budget of about N\$1.2 billion, which covers only eight of the eleven agricultural projects (Republic of Namibia, 2011: 2-11). The budget allocations of the remaining three projects were not indicated in the Project Workbook. The Green Scheme Programme has projects such as organic vegetable farming, feedlots, cash crop farms, horticulture, milk production, rice project, Agriculture Research and Technology centres and Fresh Produce Market Infrastructure Development Project (Republic of Namibia, 2011: 2-11).

Governments are compelled in a way to come with agricultural projects in order achieve food security because “*the reason most people are hungry today is not that because enough food cannot be produced, but because it does not get distributed fairly and because some people are too poor to afford it*” (Desai & Potter, 2002:147). Namibia’s Green Scheme Programme is designed for that purpose, that food should be produced locally so that it becomes affordable to all. The Government has embarked upon on state-led socio-economic development through the Green Scheme Programme, a programme that is aimed at ensuring agriculture productivity and food security in line Namibia’s Vision 2030 (Republic of Namibia, 2008: 1).

In short, the objectives of the state-led socio-economic development in the form of the Green Scheme Programme are as follows:

- To increase agriculture production and sector contribution to GDP;
- To promote investment in food production and agro forestry;
- To promote food security at national and household levels;
- To promote value addition and job creation;
- To mobilize private and public capital for investment in agriculture;
- To diversify agricultural production and products for the domestic and export markets;
- To promote research and adaptation of technology to increase productivity; and
- To promote skills development and transfer of technology (Republic of Namibia, 2008: 1).

The study will focus on the first four intended outcomes, as mentioned in the bullets above of the Green Scheme Programme. The study will also take into account unintended outcomes that may have resulted from the introduction, implementation and outputs of the Green Scheme Programme and specifically the Kalimbeza Rice Project.

The general aim of the research is to evaluate the outcomes of the Kalimbeza Rice Project on the Socio-Economic conditions of the people in terms of employment, food security and the contribution to the Gross Domestic Product (GDP) of the country. The present situation, where Namibia imports most of its food supplies, the sight of people feeding from dumps as well as high unemployment rates, require an evaluation of the goals and objectives of the Green Scheme Projects.

1.2 RESEARCH PROBLEM AND OBJECTIVES

1.2.1 Research problem

An evaluation of the outcomes (independent variable) of the Green Scheme Programme: A case of the Kalimbeza Rice Project in terms of employment creation, increment in crop production and increasing the contribution of agriculture to the country's GDP (dependent variables).

1.2.2 Employment Creation

Namibia's unemployment rates are high and studies show that over the last five years the rate has been around the 50 per cent mark (Mwinga, 2012: 8). An unemployment rate of about 50 per cent is not conducive in a country of only about 2.1 million people. This translates to half the population or about a million unemployed people. Therefore, the study aims at assessing the effectiveness of the Kalimbeza Rice Project in employment creation; not only the effect on farm job opportunities, but also on employment created throughout the value chain. Employment creation of the Kalimbeza Rice Project refers to the number of people employed in planting, harvesting, processing and packaging, distribution, selling of the packaged rice and transportation of the product throughout the value chain.

1.2.3 Crop Production and Food Security

The issue of food security is important for human survival and can be achieved by increased crop production. As indicated earlier in this study, rice is fast becoming the most consumed product in Sub-Saharan Africa and Namibia included. It is, therefore, crucial to assess the role that the Kalimbeza Rice Project is playing in increasing rice products. Newspaper reports have explicitly indicated that the Namibian nation is starving; that this starvation has literally forced some people to eat food from dumpsites. A claim can be made that starvation can be a result of high food prices or simply to no food due to ineffective food production. The study aimed to assess how the extent of the Kalimbeza Rice Project has contributed to food security through projected increase in crop production.

1.2.4 Kalimbeza Rice Project's contribution to the Gross Domestic Product

As explained earlier in this study, many developing countries still rely on the agricultural sector for both economic growth and food security. It is therefore vital to critically review the role or potential that the Kalimbeza Rice Project has toward the country's GDP. Namibia's agricultural sector's contribution towards the GDP has been on the decline. The declining role is a major setback as agriculture is a key component, both as a food source and as a valuable contributor towards the economy. For this reason, the study aimed at establishing the Kalimbeza Rice Project's contribution towards the total agricultural sector. The study aimed not only to determine the GDP contribution through the sale of the rice product, but also GDP contributions of all the other activities through the value chain of rice. The study also attempted to determine

the Gross Domestic Product contributions from activities such as tax payments by people who were employed as a result of the Kalimbeza Rice Project.

The graph below indicates agriculture's declining contribution towards GDP over the last few years.



Figure 1.1: Agriculture value added (% of GDP) in Namibia

Source: Extract from Trading Economics (2012)

The graph clearly shows that agriculture played a significant role towards the GDP in the early 2000s by contributing about 10% to the total GDP, but by the years 2010 and 2012, the contribution of agriculture towards the GDP had taken a slump. The effect of the Green Scheme Programme and the Kalimbeza Rice Project on the overall contribution by agriculture to the GDP is of interest. It appears that the contribution by the agriculture sector started to decline around 2008, at about the same time that the Green Scheme Programme was officially launched. This tendency asks for answers as to why the contribution of the agriculture sector to the GDP is declining in the midst of a national programme aiming at enhancing the role that agriculture plays in the socio-economic development. The declining performance of the agricultural sector is the reason why the Kalimbeza Rice Project will be assessed.

1.2.5 Intend and unintended impacts of the Kalimbeza Rice Project

The role that agriculture plays, goes well beyond enhancing food security, employment creation and economy, therefore, the study will establish the role that the Kalimbeza Rice Project has played in achieving other developmental goals such as: advancing education, promoting gender

equality, increasing life expectancy, combating HIV/AIDS, malaria and other diseases, ensuring environmental stability and market access (The World Bank, 2005: 2). This implies that the study not only focused on specified objectives of the Green Scheme Programme –and specifically the Kalimbeza Rice Project’s set of objectives– but to examine the nature and extent of unintended outcomes that affect the livelihoods of the communities.

1.3 RESEARCH QUESTION

To what extent has the Green Scheme Programme, and specifically the Kalimbeza Rice Project, realised its stated and unintended objectives, outcomes and impacts?

The study will respond to the following sub-questions:

- What employment types and magnitude has the Kalimbeza Rice Project created for the inhabitants and beyond?
- What are the current crop production trends at the Kalimbeza Rice Project and how has this crop production affected food security?
- What is the Gross Domestic Product (GDP) contribution of the Green Scheme Programme to the Namibian economy, also looking specifically at the Kalimbeza Rice Project’s contribution?
- Has the implementation of the Kalimbeza Rice Project been successful and what have been the challenging factors?

1.4 RESEARCH OBJECTIVES

The research objectives of this study are centred on the following issues of importance:

- to critically review the employment types and magnitude created through the entire value chain by the Kalimbeza Rice Project in the Kalimbeza district
- to examine the contribution of the Kalimbeza Rice Project on food security for the people
- to review the Gross Domestic Product (GDP) contribution of the Green Scheme Programme to the Namibian economy
- to analyse the overall impact of the Kalimbeza Rice Project on the lives of the local people and the nation as whole.

1.5 DEFINITION OF KEY TERMS AND CONCEPTS

1. Developmental State: Governments, motivated by desire for economic advancement, intervenes in industrial affairs.
2. Food Security: Adequate food availability, access and use.
3. Unemployment: people who do not have jobs, have actively looked for work in the past four weeks, and are currently available for work.
4. Sustainable Livelihoods: Capabilities, assets and activities required for a means of living.

CHAPTER 2

LITERATURE REVIEW: ROLE OF GOVERNMENT IN SOCIO-ECONOMIC DEVELOPMENT

2.1 INTRODUCTION

Namibia has one of the biggest gaps between the rich and poor, where “*more than one in four households live in poverty*” and the wealthiest 10 per cent control more than half of the country’s economy (UNDP, 2013). Therefore, there is an urgent need for socio-economic development programmes that aim at poverty reduction as the Namibian Government – being a signatory to the 2000 Millennium Declaration – is required to cut the incidence of poverty by half before 2015 (Republic of Namibia, 2008: 1). Ashley and Carney (1999:4) described poverty as going beyond “*a lack of income, and to have multidimensional characteristics and causes*”. Over the years, the Namibian government has come up with new ways that will accelerate socio-economic development for both urban and rural areas. One of these poverty reduction methods is through the introduction of the Green Scheme Programme (Policy No.22nd/25.08/003), a public-private partnership initiative (Republic of Namibia, 2008: ii). The Green Scheme Programme aims at the reduction of poverty through increased food production, increased access to water for communities, increased infrastructure, better income through employment, and a strong Gross Domestic Product through increased exports (Republic of Namibia, 2008: ii).

In this study, the term evaluation refers to a coordinated process of data collection about the activities, systems, processes and outcomes of The Kalimbeza Rice Project (ACF International, 2011: 23). The term employment (for the purpose of this study) refers to a situation where a person “*who during the reference period performed some work for wage or salary, in cash or in kind; these are persons who during the reference period performed some work for profit or family gain, in cash or in kind*” Mwinga, (2012: 12). The above definition will be used in the case of the Kalimbeza Rice Project, in that whosoever was or is employed on either temporary or permanent basis, would be regarded as having been an employee of the project. The concept ‘developmental state’ refers to state-led economic development initiatives (Meyns & Musamba,

2010:11). The above definition indicates the presence of poverty; inequalities and unemployment in these developmental states and the desire of the state to intervene in order to lessen such shortcomings.

The term evaluation in the study will refer to the “process of determining the worth of or significance of activity, or policy, or programme” (Imas & Rist, 2009: 9). The Green Scheme Programme and specifically the Kalimbeza Rice Project’s outcomes will be evaluated. Crop production in this study will refer to the output in terms of rice grain harvests from the Kalimbeza Rice Project. Crop production from the project will partially indicate state of local food production, which enhances self-sufficiency and ensure food security for the nation (Republic of Namibia, 2012: 106). In this study, food security refers to “*adequate food availability, access and use*” (The World Bank, 2008: 94). Therefore, food security is looked at as the availability of food throughout the year through increased food production. “Access” refers to not only food being available but that food should be enough, and “use” refers to the nutritional value contained in the available food that people have access to (The World Bank, 2008: 94-95).

Gross Domestic Product, as explained by the Ministry of Agriculture, is a “*measure used that incorporates the total value of goods produced within a country, excluding raw materials and other goods and services produced within the production process*” (Republic of Namibia, 2009:5). The Kalimbeza Rice Project’s contribution towards the GDP will be measured from the amount of money generated from the sale of products from the produce of the project.

2.2 DEVELOPMENTAL STATE

States have the responsibility to uplift the socio-economic levels of citizens, and it is evident that “*many, though not all, developing countries have enjoyed remarkable rates of growth during recent decades*” (FAO, WFP and IFAD, 2012: 4). Many of the poor people in these countries that have shown socio-economic growth, have not benefited from such growth as “*growth originates in sectors that do not generate sufficient employment for the poor*” (FAO, WFP and IFAD, 2012: 4). The above statements relate perfectly to developing countries, such as Namibia, where economic growth is mostly driven by the service sector, while the poor majority is still agricultural in its quest for socio-economic development. In order to create employment for the

majority, it is important for the government to invest in the agricultural sector, as more than half of the country's population resides in rural areas and is still reliant on agriculture for a living, making agriculture the main source of rural economic growth (Republic of Namibia, 2011: 1 & The World Bank, 2003: 2).

Therefore, it is important for states to invest money in the sectors where the poor are involved and can benefit economically, resulting in improved social standings. State investment in the agricultural sector in developing countries positively contributes to socio-economic development in terms of poverty and hunger alleviation, and employment creation (FAO, WFP and IFAD, 2012: 4). Because economic growth impacts positively on food security, economic growth should be a priority of countries.. Therefore, it is imperative to include the poor in economic growth processes, as clearly explained by (FAO, WFP and IFAD, 2012: 15). Growth must involve and reach the poor, the result being the poor having income that enables them to have access to food, and for states to invest resources to benefit the poor and hungry. To put this in the context of this study, it would mean that the poor, especially in rural areas, be involved in agricultural projects, of which salaries earned would enable people to improve the quality and quantity of their dietary needs.

State-led development of the agricultural sector is necessary because agriculture contributes in many ways toward socio-economic development of communities. As stipulated by The World Bank (2008: 2) that *“agriculture contributes to development as an economic activity, as a livelihood, and as a provider of environmental services, making the sector a unique instrument for development”*. Therefore, state investment in the agricultural sector helps the economy to grow as the base for all agriculture-related industries and all the economic activities created through the entire value chain. Agriculture helps economies grow, especially in Sub-Saharan Africa where the sector is the main source of income for many people (The World Bank, 2008: 3). Studies have shown that the livelihood of eighty six per cent of the world's rural population, which is nearly half of the world's total population, depends on agriculture (The World Bank, 2008: 3). With this large number of people dependent on agriculture, it is only sensible for governments to invest resources into the sector that provides livelihoods to the majority of the poor.

Economic growth, even in economies that are going through structural change, requires employment-enhancing growth (FAO, WFP and IFAD, 2012: 28). With unemployment figures standing at 51.8 per cent in 2008 (from thirty six per cent in 2004), and with seventy five per cent of the population living in rural areas by 2011, it is inevitable to introduce agricultural projects in rural areas which in turn will create jobs for the rural poor (Mwinga, 2012: 8 & Republic of Namibia, 2011: 1). The role of the state in this socio-economic drive is to invest resources into Green Scheme Programmes, which will lead to employment creation in rural areas and impact on the socio-economic levels of the people. The effects of employment are beneficial in that employees will be able to pay for services such as medical, education and even entertainment services which will improve the quality of their lives.

As Namibia's economy is undergoing structural transformation from basing growth on primary resources to production and service sectors, the role of agriculture in poverty reduction and food security remains greater than its role in driving economic growth (FAO, WFP and IFAD, 2012: 28). The above statement is relevant because the country's economy can grow. On the other hand, if there are no improved ways of food production, starvation will emerge. FAO, WFP and IFAD (2012), stated that "*economic growth is necessary but not sufficient to accelerate reduction of hunger and malnutrition*". The only simple and logical way to reduce hunger is through increased food production. In the Namibian case, the Green Scheme Programme is designed for the sole purpose of enhancing food security and thus reducing hunger. The crops produced from agricultural projects would increase the amount of food in the country, and increase food security, especially among the rural poor who cannot afford to pay high food prices.

The food production situation in Namibia is clearly explained by WTO (2004) in (Hoffmann, 2012) that "*Namibia is a net food importing developing country*". As seen in the table below, Namibia spends millions per year on food importation. Since Namibia imports most of its food supplies, the contribution to food security by the Green Scheme Programme through crop production will be looked at. The study shall also look specifically at the role played by the Green Scheme Programme in contributing to the functioning of the national economy as reflected by its share in the total GDP (Valdes and Foster, 2010: 1364). Because by 2003 three quarters of the World's poor lived in rural areas, the Green Scheme Programme, with all its

projects situated in the rural parts of the country, is central to poverty alleviation (The World Bank, 2003: v). By taking these agricultural projects into rural areas gives the rural poor, the most disadvantaged group to be active participants in food production, employment and thus contribute to the economic development of the country.

Table 2.1 Import of agricultural and other food product (in N\$ million per year)

| Years | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 |
|--|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| Agriculture & Forestry Products | 478 | 409 | 523 | 746 | 913 | 885 | 915 | 952 | |
| Other Food Products | 1369 | 1346 | 1542 | 2367 | 2264 | 2580 | 2897 | 2947 | |

Source: Republic of Namibia, (2012: 30)

The above table clearly shows that the country's food production capacity is limited, as millions of dollars are spent on food importation. Food importation is not a sustainable solution to food security, and the Government realised this with the introduction of the Green Scheme Programme which aims at making Namibia to become self-reliant in terms of food security (Republic of Namibia, 2012: 30). Looking at these figures spent on food importation, it is clear that it will only be sustainable to invest these financial resources in local food production. It is clear why some people in the country are starving, as there is no guarantee that imported food can be afforded by all.

State-led investment in the agricultural sector is the key in uplifting the livelihoods of people in countries like Namibia where the majority of rural population is still reliant on agriculture for survival. Rural people use agriculture for survival in the following ways: as small holders who receive an income from selling most of their products, whereby they use the income to pay for the basics needed for survival. Then there are subsistence-oriented farmers whose produce are mainly for home consumption; and lastly is the group known as the labour-oriented households, who get income directly from agriculture or from activities throughout the value-chain (The World Bank, 2008: 75).

2.3 POLICY FRAMEWORK ON SUSTAINABLE LIVELIHOODS

Northern Namibia is home to more than half of the country's approximately 2 million people, "90 percent of whom live in rural areas and are dependent on fragile natural resources for most or part of their livelihoods". Seventy percent of the rural communities live in poverty, and therefore strategies must be put in place to lift these communities out of poverty (IFAD, 2013). The question that needs to be asked is for how long will natural resources maintain the livelihoods of the rural poor, when resources are not used sustainably. As defined by Scoones, 1998 (in Krantz 2001: 7), Sustainable Livelihoods (SL) is explained as a livelihood that:

"comprises of the capabilities, assets (including both material and social resources) and activities required for a means of living. A livelihood is suitable when it can cope with and recover from stresses and shocks, maintain or enhance its capabilities and assets, while not undermining the natural resource base".

The above definition of Sustainable Livelihoods for the rural poor refers to community-based capacity building projects and programmes that aim at improving the participants' socio-economic status. The rural poor can improve their socio-economic status by being linked to employment opportunities as well as discovering new economically viable ways to survive. Sustainable Livelihood consists of three elements. These three are Livelihood Resources, Livelihood Strategies, and Institutional and Organizational Studies. Livelihood Resources refer to natural resources such as land, water and air, while Livelihood Strategies refers to the means that people employ in order to make use of their available resources. Institutional and Organizations aspects refer to the management of resources and strategies.

At this stage, Namibia has no national policy on Sustainable Livelihood, or an agriculturally specific Sustainable Livelihood policy. However, there are livelihood programmes that are running such as Northern Regions Livestock Development Project (NOLIDEP), Land Reform and Livelihoods, and Green Scheme Programme, a programme that increases food production through irrigation. All the livelihood programmes that have been implemented in the country, aim at equalling the distribution of income among citizens, as "Namibia is reputed to have the most unequal distribution income of all countries" (Werner and Odendaal, 2010: 9). This means

that the gap between the ‘haves and the have not’s is quite big, therefore, steps have to be taken to bridge the gap.

For the purpose of this study, Sustainable Livelihood will be limited to the agricultural sector. Agriculture has a great impact in the promotion of Sustainable Livelihoods, because through agriculture food security can be enhanced, economic advancement through employment creation can be increased and many other livelihood opportunities arise. A comprehensive Agriculture Sustainable Livelihoods Policy or programme is vital as not only today’s livelihoods will be secured, but tomorrow’s food supply, farming practices and finances of families will be sustained (Save the Children, 2013).

The Green Scheme Policy, No. 22nd/25.08/003 represents a Sustainable Livelihoods programme that aims at increasing Namibia’s food production, increases access to irrigation for individuals, creates employment such as construction of farm infrastructure, transport, services, maintenance and investment (Government of Namibia, 2008). All the activities of the Green Scheme Programme are guided by the Green Scheme Policy of 2008. Not only is the Green Scheme Policy a Namibian-centred one, but it is in line and commits to regional and international standards. Regional and international standards that promote Sustainable Livelihoods use the Green Scheme Programme in terms of the creation of public-private partnership. (Government of Namibia, 2008: 2).

2.4 EVALUATING OUTCOMES OF STATE-LED PROGRAMMES AND PROJECTS

Evaluation as defined by OECD, (2001: 21) (cited in Immas and Rist, 2009: 9) refers “*to the process of determining the worth of significance of an activity, policy, or program. It is as systematic and objective as possible, of a planned, on-going, or completed intervention*”. It is vital to evaluate the effectiveness of developmental projects. Not only should the focus be on outputs but outcomes and impacts as well (Bamberger, Rao and Woolcock, 2010: 1). Evaluation serves varying purposes such as: ethical; managerial; decisional; educational and motivational resolutions (Immas and Rist, 2009:11). Evaluation is important for giving feedback to all the relevant stakeholders such as politicians and citizens, for budgeting and better decision making; and information sharing partners to the interventions (Immas and Rist, 2009: 9). As explained

earlier in this study, Sub-Saharan Africa's agriculture has been performing poorly in recent years. The poor performance can be attributed to the failure of having put monitoring and evaluation systems in place. The availability of an effective evaluation system would guarantee that all project or programme activities are geared towards achieving the intended outcomes.

As mentioned earlier, the focus of the study is on the Green Scheme Programme, a state-led socio-economic development programme. It is reasonable to attempt to specify and trace the changes brought by the Green Scheme Programme. It is vital to note that it is difficult to trace changes in people's lives. Impacts take a long time to be recognisable and may be a result of a combination of other programmes. The Government should develop evaluation systems that are backed up by strong political will, established strong foundation for evaluation and enhanced local human capacities (Immas and Rist, 2009: 63). State-led development with the aid of an effective evaluation system is an approach making sure that socio-economic development takes place and is owned by the country. Countries, especially in the developing world, must develop developmental programmes and projects that are results-based, because the focus is still more on uplifting the socio-economic standards of the people. In order to see if social or economic change is taking place, it is important to focus on the results. Therefore, the performance of projects or programmes will be placed on both the implementation, and most importantly on the *"assessment of outcomes and impacts, or more generally of results"*, in order to understand the magnitude of the impacts (Immas and Rist, 2009: 108; The World Bank, 2005: xxvi).

In order to enhance accountability and learning, it is imperative that projects be evaluated. Evaluation should seek to hold accountable project implemented over the extent to which intended objectives have been met and results (outputs, outcomes or impacts) achieved, and if not, why not (ACF International, 2011: 24). Evaluation will act as a scale to measure the success or failure of projects. This will give clear information to both internal and external beneficiaries of the project. Evaluation is also a very good way to find the way forward by analyzing what had or did not work thereby creating a platform for better decision-making (Imas & Rist, 2009: 28 and ACF International, 2011: 24). The learning ability provided by Monitoring and Evaluation is significant in the Kalimbeza Rice Project, as lessons learnt will be the base to improve future investment in similar agricultural projects.

Evaluation of projects in the developing world faces a difficult challenge in that “*weak political will and institutional capacity*” is evident (Imas & Rist, 2009:61). The above leads to a situation where nobody takes ownership of the evaluation system. In order for evaluation to save its intended purpose in developing countries, systems need political will in the government and champions placed high up. These countries “must have or establish a foundation for evaluation” (Imas & Rist, (2009:61). The above statement means that systems without political will, or vice versa, will never materialize.

2.5 THE KALIMBEZA RICE PROJECT

As indicated in the Project Workbook, the Namibian government has come up with many projects across different sectors such as: agriculture, forestry, water, infrastructure, manufacturing, mining and tourism projects (Republic of Namibia, 2011: 1-30). Projects are a good way of encouraging sustainable development and at the same time the best way to socially and economically empower communities. Food is vital for life and most of what people eat comes from agricultural activities. Through the Green Scheme Programme, the Namibian government has so far come up with 11 agricultural projects across the country (Republic of Namibia, 2011: 1). The Green Scheme Programme is therefore a platform in reaching the rural poor. With this programme, development of the country focuses on the rural poor. The rural poor become involved in food production; they are employed and so contribute to the total development of the country. Projects of this nature have the ability to help create a strong social inclusion space, where the previously disadvantaged, such as women, can realise their rights and can be granted opportunities to learn new of ways doing things.

The Kalimbeza Rice Project is situated in the rural parts of the Kabbe Constituency, Caprivi Region. The project covers a total area of 193 ha that are utilised as follows: 80 ha are allocated to the commercial operator, 25 ha for medium and small-scale farmers and the remaining 73 ha is managed and operated by government (Republic of Namibia, 2011: 1). The project is funded by the Republic of Namibia in conjunction with Public-Private Partnerships and runs on an estimated cost of US\$ 5 million (approximately N\$ 45 million).

The main objectives of the Kalimbeza Rice project are: to “*increase the contribution of agriculture to the country’s Gross Domestic Product (GDP) and increase crop production*”

(Republic of Namibia, 2011: 8). Therefore, the Kalimbeza Rice Project is vital in Namibia's quest to meet the millennium goals of reducing hunger and poverty through improved income-earning capacities, and increased availability of food (The World Bank, 2003: 40). The African Development Bank also values the role that the Green Scheme Programme will play in supporting Sustainable Livelihoods. This is evident by the 209.76 million Rand loan given to the programme (Cool Fresh Namibia). The African Development Bank believes that the Green Scheme Programme will increase agriculture's contribution to the GDP as well as lead to a further industrialisation of the Namibian agricultural sector

The Rice Project at Kalimbeza first started its operations in the year 1987, three years before Namibia's independence, and run by the then Ministry of Agriculture of the colonial government (Caprivi Freedom-news, 2011:1). Then the project stopped its operations in the 1990^s. However, the Kalimbeza Rice Project was re-established in the year 2001 to 2004. Operations at the Kalimbeza Rice Farm were once again halted for about two to three years between 2005 and 2007, and operations re-started again in 2007 when the University of Namibia (UNAM) joined the rice project (Caprivi Freedom-news, 2011: 1). Setting agricultural projects in the rural areas such as Kalimbeza are the best method in moving rural households from poverty. Agriculture reduces rural poverty *“through agricultural entrepreneurship; others through the rural labour market and the rural nonfarm economy; and others by migrating to towns”* (The World Bank, 2008:1). Agricultural entrepreneurs are created through leaseholds that are given to small-scale farmers, while many people from within the communities end up working on farms and throughout the value-chain, As a final point, migration of people will take place as people will be forced to move to towns due to loss of land.

There have been both achievements and challenges over the years at the Kalimbeza Rice Project, in terms of the project playing a meaningful role in eradicating hunger and poverty. Achievements have come in the form of rice production *“for local people, Oshakati and Windhoek”* since the year 2001, permanent and temporary employment creation has taken place (Caprivi Freedom-news, 2011:1). Challenges to the successful production of rice at the Kalimbeza Rice Project so far seem to outweigh the achievements. There have been reports of a shortage of working machines, expensive imported rice seeds, and improper *“management, branding, packaging as well as distribution of the rice...”*, the failure to avail the rice in all

shops across the country and the lack of storerooms and warehouses (Namibian Sun, 2011:1). Further challenges have been faced by the Kalimbeza Rice Project, such as severe flooding that usually swamp the rice farm, thus affecting the harvest, destruction of rice crops by elephants and migrant birds, destruction of the fence by surrounding communities, leaking water pipelines that supply water to the rice fields and a lack of water and services at employee's houses (iNamibia, 2011:1., Nakale, 2013 and NamibianSun, 2013:1).

The introduction of projects in rural areas brings along development on many fronts such as physical infrastructure as well as infrastructure services where *“both farms and households need a minimum level of infrastructure services to function efficiently”* (The World Bank, 2003: 52). Therefore, in addition to food security, employment and GDP contribution, potential of the Kalimbeza Rice Project are vital, because housing for workers, water, electricity, roads to access the farm and communication will be availed.

However, reports show that some steps have been taken to mitigate the challenges faced by the Kalimbeza Rice Project, such as the allocation of funds by Government to be used for the purchase of machinery, building storerooms, warehouses, silos, offices and workers' houses as well as carrying out experiments on all foreign rice seeds to see if they can be grown under local conditions before purchasing seeds in bulk (Caprivi Forum, 2011). The planting season will start earlier than normal in order to avoid losses due to the annual floods (iNamibia, 2011:1). The government has to make policy and institutional changes for the Kalimbeza Rice Project to succeed in uplifting the socio-economic aspects of the people. Changes should include tax reduction on the rice product from the project, the creation of favourable trade and industrial policies, as well as the creation of efficient marketing institutions and developing local and regional markets (The World Bank, 2003: 42).

It is important to consider that land and water are two of the most central resources for rice production at Kalimbeza. The frequent flooding at the Kalimbeza Rice Project is vital for establishing if management systems are available to mitigate the effects of floods on the farm and the environment. The World Bank (2008: 195) states that it is crucial for projects to make communities active participants in natural resource management because the community has the ability to *“mediate between local people and the project activities of governments, donors, and NGOs”*. It is important to note that the introduction of projects, if not properly monitored, results

in negative, unintended effects on communities. Therefore, projects like the Kalimbeza Rice should always target at improving the “*social well-being and minimize the vulnerability of the rural poor*” (The World Bank, 2003: 11). The Kalimbeza Rice Project should enhance the nutrition of the locals, create employment, enhance locals with new sustainable farming knowledge, and at the same time mitigate the effects of HIV/AIDS and all the other contagious diseases.

In this study, the Kalimbeza Rice Project refers to all the activities involving the clearing of the land, planting, harvesting, processing, packaging, marketing and consumption of the Kalimbeza rice. For the purpose of this study, any activity carried out by an individual or group which affects or is affected by the outcomes of the Kalimbeza Rice Project, is part of the study. Socio-economic development in this study refers to the effects of the Kalimbeza Rice Project on increased food security through crop production, employment creation and the contribution towards the country’s GDP (Oakes, 2011: 2).

Rice production in Africa should be intensified, as concluded in a week-long African Rice Congress held in Bamako, Mali. The findings of the congress clearly showed that rice intake has shifted from being food reserved for special functions such as weddings, to an everyday meal (IRIN Africa, 2010:1). The above statement clearly displays that daily consumption of rice has become common. Countries like Namibia are, therefore, required to increase rice production in order to meet the increasing demand of rice consumption. Intensifying rice production in Africa through projects such as the Kalimbeza Rice Project will not only increase food security, but also plays a major economic role by saving millions of dollars on rice importation. As observed in the year 2006, about US\$2 billion was spent on about 10 million tons of rice imports for African consumption (IRIN Africa, 2010:1). Some or all of these large sums of money spent on rice importation could instead be invested in local rice projects such as the Kalimbeza Rice projects, which would in turn create local employment, infrastructure development and increase food security.

The continent Asia has successful rice producers, but for this study lessons to improving rice farming will be learnt from an African country: Uganda. The study chose Uganda as an example because as a Sub-Saharan African country, it has nearly the same developmental and historical patterns as Namibia. Uganda has made major strides in comparison to other non-traditional rice

producers in Sub-Saharan Africa, with production increasing 2.5 times since the year 2004 (Mohapatra, 2009: 22 and Mohapatra, 2013). The Kalimbeza Rice Project can be a success with right policies and appropriate technologies, as in the Uganda case where the country imposed seventy five per cent import duties on rice products (Mohapatra, 2009: 23). Heavy import duties resulted in imported rice being too costly for the locals, thus enhancing local rice production.

Rice production in Uganda has also been boosted by public-private partnerships and capacity building, where private organisations such as JICA, Investment in Developing Export Agriculture (IDEA) and the Agricultural Productivity Enhancement Program (APEP), partner the national agricultural research and extension system (Mohapatra, 2009: 23). This public-private partnership has played a major role in building the capacities of “*young scientists, field technicians, extension agents and processors*” (Mohapatra, 2009: 23). Fortunately, the Kalimbeza Rice Project has also entered into public-private partnerships with the University of Namibia “*rice expertise such as Nagoya in Japan and Gadja Mada in the Republic of Indonesia*”.

The public-private partnership in Uganda also offers credit to small-scale rice farmers. It has also created market access for these small-scale farmers through the creation of cooperatives (Mohapatra, 2009: 23). As witnessed in Uganda, increased rice production and food security increased over the years and rice imports reduced drastically saving the US \$30 million in foreign exchange (Mohapatra, 2013: 16). This achieved food security as well as boosting the country’s economy through savings on foreign exchange.

2.6 CROP PRODUCTION AND FOOD SECURITY

Agriculture plays an important role in the lives of many poor people, especially in the developing world where three quarters of the people live in rural areas, below the poverty line of less than \$1 a day and “*depend on agriculture for their livelihoods*” (The World Bank, 2008:1). Many countries in Sub-Saharan Africa are agriculture-based, as agriculture is important to growth and to reducing poverty and food insecurity (The World Bank, 2008: 1). A productive agricultural system increases crop production, leading to improved food security and potentially lower food prices for the poor people. It is vital for public and private sectors in developing countries to invest in agriculture, as good harvests will increase food security. It is important for developing

countries, especially in Sub-Saharan Africa, to increase food production, because many countries in this region have faced a “*slow growth in food production, combined with rapid population growth, and has resulted in an increasing food deficit*” (ILO, 2011:27). Namibia is no exception from the dilemma that faces Sub-African Africa. This region has the highest number of undernourished individuals, where one in every three suffers from chronic hunger (The World Bank, 2008: 94). The World Bank (2008: 94) explains clearly, what governments should do in order to achieve food security for all:

“Food security depends on adequate and stable food availability, access to adequate and appropriate food, and proper use and good health to ensure that individual consumers enjoy the full benefits of available, accessible food”.

An increasing food deficit due to exploding population numbers, coupled with a performance of the agricultural sector in Sub-Saharan Africa that has not been impressive in the recent past is not good to sustain livelihoods. Agricultural performance in ensuring food security has been affected due to resources such as land and water that continue to degrade. Also important is education, health and technology that is applicable to Africa and the “*long-standing stagnation of African agriculture—the application of resources to production in much more effective ways and on a much larger scale than in the past*” (The World Bank, 2008: 9-10 & Dommen, 2001). Land is crucial for crop production in that actual farming takes place on land; therefore proper land administration in terms of land rights is a condition for successful agriculture. Water is a necessity to agriculture and crop production as this increases yields. As explained by The World Bank (2008, 9) that “*Irrigated land productivity is more than double that of rainfed land*”, meanwhile, in Sub-Saharan Africa only 4 per cent of land is irrigated. Land and water may be available, but knowledge and skills to plough and make profit out of the land, are important.

To sum up all the factors that limit crop – or specifically rice production– in Sub-Saharan African, the study will first look at biophysical constraints. Suitable land in terms of climate, weather variables, and landscape and soil characteristics of the area where the crops will be grown should be considered to realise increasing crop production (Balasubramanian et al (2007: 71). Secondly, it is important to consider the human resource available in increasing crop

production. Today's farming practices involve the use of technology as stated by Balasubramanian et al, (2007: 85) that "*the lack of education among rice farmers is another major constraint, as better-educated farmers are more willing to adopt new technologies*". The introduction of new technologies increase crop production in many instances, as machines might be more efficient than labour. Lastly, socio-economic and policy constraints also hamper crop production in that limited access to credit; inputs such as: seed, fertilizers, pesticides; poor rural infrastructure and transportation negatively affect crop production (Balasubramanian, 2007: 86).

Although 11 agricultural projects are in place, food prices have been on the increase since the turn of the 21st century, making food security an impossible task for many individuals and families. Lack of food supplies has led some Namibians to scavenge for food at dumping sites across the country. Reports in local newspapers indicate how serious the issue of food security has become. News stories about people feeding at dumps appeared in The Namibian Newspaper: "*Survival Time*" (Oswald Shivute, 2012) and "*Struggle Kids eat from dump*" (Tuyeimo Haidulwa, 2013). Food security for all should be achieved in a country with a population of about 2 million people (Republic of Namibia, 2012: 3). Northern Namibia is rich in natural resources like arable land and water; it is up to the public and private sectors to invest in agricultural developments in order to improve food security.

Sub-Saharan Africa can achieve major increases in crop production as there is "*abundant supply of natural resources that support a huge expansion in food, especially rice production*" (Balasubramanian, 2007: 56). An increase in local crop production to ensure food security is necessary for Sub-Saharan African countries in order to reduce the importation of rice, which stands at about \$1.5 billion per year (Balasubramanian, 2007: 58). The urgency to speed the development of local crop production, especially rice production, is high as crop prices have rose and rice stocks have declined. The above situation strains the economies of major rice importing nations (Balasubramanian, 2007: 58).

Agriculture plays a major role in satisfying the most basic human need: the need for food and also contributes to the economic development of countries. Food security as explained by FAO, 1996; Lovendal and Knowles 2005 (in Sacks and Levi, 2010: 2327) "*refers not only to an adequate aggregate supply of food but also to a condition when all people at all times have physical and economic access to sufficient, safe and nutritious food to meet their dietary needs*

for an active and healthy life". It is because of the socio-economic benefits of agriculture that the Namibian government chose to come up with agricultural projects. Establishing an effective value chain system enables people – especially the rural poor – who are employed in the agricultural sector, to earn an income that enables them to afford paying for food.

The Namibian government's Vision 2030 commits the government to devise programmes and projects to ensure food security at national and household level (Iita, 2012). The government's Green Scheme programme where production of the following takes place: maize, wheat, rice, vegetables, rice, bananas, dates and grapes, has a total land allocation of 9,429 hectares, of which as of 2012, only 3,435 hectares were under production (Iita, 2012). Rice is fast becoming the most consumed product in Sub-Saharan Africa (SSA) and Namibia included, as explained by Balasubramanian et al, (2007: 58) that "*In recent years, the relative growth in demand for rice is faster in SSA than anywhere in the world*". Namibia's only rice farm is the Kalimbeza Rice Project, a project that covers a total area of 193 hectares, with the objective to increase crop production (Republic of Namibia, 2011: 8).

The role that the Green Scheme Programme and specifically the Kalimbeza Rice Project can play has never been greater than this year (2013), as Namibia faces its worst drought in 30 years (Fisher, 2013). With this severe drought that has led to the country declaring a state of emergency, it is expected that "*778,000 people face food insecurity*" (Smith, 2013). Proper harvests over the years from the Kalimbeza Rice Project and from other Green Scheme projects would enhance Namibia's self-reliance. At the moment, the country is relying on aid from organisations such as UNICEF and The International Federation of Red Cross for funds amounting to US\$ 8.88 million in order to support the livelihoods of a third of country's population (Smith, 2013). Instead of asking funds from international aid agencies to feed the majority that are facing starvation, Namibia should be proactive and ask for funds to strengthen the Green Scheme Programme, in order for the country to be ready for disasters like the 2013 drought of which Namibia is prone to as the country is normally dry (Fisher, 2013). An ineffective Green Scheme Programme will result in death due to malnutrition. It has already been witnessed in Opuwo where reports indicated that in July 2013 alone, children were admitted at the hospital because of malnutrition "*while unconfirmed reports say that eight others had died*" (Nembwaya, 2013).

Failure from the Government to invest heavily in agricultural projects results in people taking drastic measures in order to survive “*such as breeding livestock and seed, which they would otherwise invest in future production*” (The World Bank, 2005: 7). Agriculture is central to the livelihood of rural inhabitants, “*directly through farming, or indirectly such as agro-processing, and providing services or inputs*” (The World Bank, 2003: vi). People feed of the food from their farms or buy food using money earned from employment in the agricultural industry. Agriculture- related activities result in economic growth in rural areas while at the same time reducing poverty.

2.7 EMPLOYMENT CREATION BY PROJECTS

In these difficult economic times, “*the potential and the urgency for securing agriculture’s prominence in the development agenda have never been greater*” (The World Bank, 2005: xv).

The agricultural sector has a greater role in the development of a country, not only in terms of food production as an employment avenue. There are positive outcomes in people having employment, this will enable people to pay for basic services that improve their welfare such as medical fees; education; shelter and food. Statistics show that agriculture employs about 1.3 billion people of the world’s population (The World Bank, 2008: 3). There is a strong link between income generated from employment in the agricultural sector and food security. As explained by Dethier & Effenberger (2011: 196) “*even when food is available in sufficient quantities, poor and vulnerable groups might be unable to consume food sufficiently and adequately because they lack access to it*”. It is clear that food production does not guarantee food security, but employment increases access to food. This means that, people who receive an income on a continuous basis have a greater chance of buying food, therefore supplementing food stocks that they personally produced.

The agricultural sector has the potential to create more jobs, as eighty two per cent “*of the rural Sub-Saharan African population lives in agriculture-based countries*”, of which between forty two and seventy per cent per cent of rural income depends on (The World Bank, 2008: 4 & 77). Meaning that, agriculture plays a big role in improving the socio-economic conditions of people through employment creation, especially in the developing world where the majority still live in poverty. Countries that have invested heavily in agriculture have seen “*major breakthroughs to*

farmers' fields, enabling countries to improve food security, increase the incomes of rural households, and use agriculture as the engine of growth for the whole economy" (The World Bank, 2005: xv). It is crucial to look at agriculture beyond food security and other direct farm benefits, but to understand the overall contributions of the sector towards socio-economic welfare. The agricultural sector employs people directly on the farms and indirectly because *"increases in agriculture output induce job creation in upstream and downstream non-farm sectors as a response to higher domestic demand"* (Dethier & Effenberger, 2011: 179). Not only does the agricultural sector contribute towards employment, but it also contributes towards workers' productivity through improved nutritious intake.

A properly organized and effective value chain in agriculture can create employment beyond the production level. This means that people can be employed in the processing and marketing of agricultural products, others in the input supply and consumer products and services, therefore indirectly creating non-farm employment (The World Bank, 2003: 41). Shortcomings at the following levels compound the issue of unemployment: *"a lack of market transparency and market institutions, poor transport infrastructures, inadequate storage facilities, technological and managerial shortcomings, as well as poor enforcement of contracts"* (OECD, 1998: 15). Jobs can be created at all the above-mentioned levels if proper planning throughout the process from planting to consumption is carefully planned out. Therefore, the employment creation capabilities of the Green Scheme Programme should not be limited to crop production only, as indicated in the Fourth National Development Plan to go *"beyond production to include large-scale development of the agri-business and agro-industrial (industrial agriculture) sectors"* (Republic of Namibia, 2012:106). Not only has the direct value-chain from the rice product the ability to create jobs, but many people end up in building the farm infrastructure such offices and houses before the actual farming begins.

According to the 2011 census results, Namibia has a population of about 2.1 million people (Republic of Namibia, 2012:41). The Karibib Constituency where the Kalimbeza Rice Projects is situated has a population of about 14 500 people. Unemployment rate is high in Namibia, with figures at 51.8% in 2008 as 36% in 2004 (Mwinga, 2012: 8). The Kalimbeza Rice project has a role to play in employment creation for the Namibia, especially for people in the local area. Mwinga (2012: 20) explained that between 2004 and 2008, employment figures in the

agricultural industry dropped by about 49%. There is a link between employment and economic growth of both the individual and country, as explained in Mwinga (2012: 8): “*Employment creation provides a direct channel for distributing the benefits of economic growth broadly throughout the population and evidence from around the world suggests that the greater the employment focus, the more effective economic growth becomes in fighting poverty*”. Therefore, the Kalimbeza Rice Project, through employment creation, can help improve the economic conditions of the people. Income generated from employment can improve the lives of the rural poor, as witnessed by the global food crisis where wheat and maize prices doubled in two years and rice prices tripled in a few months (The World Bank, 2013: 2). The rural poor would not have coped with exorbitant food prices without the income generated from employment in the agricultural sector.

Although, agriculture plays a major role in rural employment creation, it is important to note that the working conditions in this sector in many countries are not up to acceptable standards, whereby “*agricultural workers face significant occupational, safety, and environmental hazards, rarely covered under labour protection*” (The World Bank, 2008: 207). Rice is water-fed crop which implies that farm employees are subjected to water, pesticides and dangerous equipment most of the time.

2.8 AGRICULTURAL SECTOR’S CONTRIBUTION TO THE GDP

The GDP of a country relies on different sectors such as mining, fishing, service industry and agriculture. Each sector that contributes towards the GDP is vital for a country’s development. However, “*cross-country estimates show that GDP growth originating in agriculture is at least twice as effective in reducing poverty as GDP growth originating outside agriculture*” (The World Bank, 2008: 6). The reason is that GDP growth from agricultural activities benefits the poorest of the population, mainly because agricultural activities take place in the rural areas. If industrialisation is to be used to enhance GDP per capita, it is important to invest resources for agricultural growth, as witnessed in the Western world in the 18th century and in Asia in the 20th century. (The World Bank, 2008: 7). Therefore, agriculture has the potential to grow the Namibian economy, at the same time reducing poverty, as seen in countries such as Chile and Ghana. (The World Bank, 2005: 2).

Modern economies are mostly built around the capitalist sector. This is different in the developing world where “*economies have generally being described as dual economies with a traditional agricultural sector and a modern capitalist sector*” (Dethier & Effenberger, 2011: 178). Namibia, as developing country, can therefore use the potential that agriculture has in uplifting the socio-economic conditions of the people. Agriculture contributes major shares towards a country’s GDP and in Namibia, as explained in NDP4, “*agriculture remains one of the backbones of the economy and has the potential to create a substantial number of jobs*” (Republic of Namibia, 2012: xviii). Agriculture contributed about 7.3 % towards the GDP in the year 2012, and the Government’s anticipated outcome in its NDP4 document is that agriculture should average a growth rate of 4% from 2012 to 2016 (Republic of Namibia, 2012: xviii). The Government has identified four key strategies to enhance agriculture’s contribution to GDP, of which the promotion of the Green Scheme is part.

The Ministry of Agriculture in its Agriculture Statistics Bulletin shows the role played by crop production’s contribution towards the GDP. (Republic of Namibia, 2009: p6):

Table 2.1 Gross Domestic Product of Crop Production (in years and millions)

| Crop Farming | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 |
|-----------------------|------|------|------|------|------|------|------|------|------|
| Millions (N\$) | 1322 | 1254 | 1439 | 1280 | 1428 | 1469 | 1555 | 1607 | |

Source: Republic of Namibia, 2009:9 and 2011)

The above table shows the contribution of agriculture on GDP. There is, however, criticism of the role played by agriculture. Diao et al, (2012: 4) explain that African agriculture has not been an exceptional performer over the long run, and the unfavourable agro-ecological conditions of many countries mean that the growth experiences of Asia may not be replicable in Africa. Namibia is not an exemption to this decline in agricultural performance, (as seen in 3.1 of this study), that there has been a continuous decline in GDP contribution over the years, from about ten per cent in 2003 to seven point three per cent in 2012.

2.9 CONCLUSION

The majority of the Namibian poor are still agrarian and live mostly in rural areas. The existence of high rates of poverty among the rural people has led the Namibian Government to take the lead in the socio-economic development of the people. Government initiatives to improve the socio-economic standing of the people include the Green Scheme Programme, a programme that has seen many agricultural projects being implemented across the country. The Green Scheme Programme is a necessity for socio-economic development, as the agricultural projects will enhance food security, in the process creating much needed employment opportunities for the rural people. In the end, both the communities and the country's economy will benefit. The people will benefit through cheaper local food produce, infrastructure such as roads, water and electricity, while the country's economy will stabilize as less money will be spent on food imports.

The Kalimbeza Rice Project has achieved some of its socio-economic developmental goals such as the production of rice, which locals and Namibians at large buy at cheaper prices. Telecommunication and road infrastructure have been availed, while water and electricity services have been made available to the communities. However, the Kalimbeza Rice Project like other developmental projects in the country, face challenges such as financial, technology, equipment and serious political will to make Namibia a self-reliant country when it comes to food.

CHAPTER 3

RESEARCH DESIGN AND METHODOLOGY

3.1 INTRODUCTION

The Research Design and Methodology chapter of any study is crucial as it maps out the overall approach to the research process. This includes theories, data collection methods and techniques and data analysis. A vital consideration in deciding on the method was based on the weights of most of the research questions and research objectives.

3.2 RESEARCH DESIGN

The research design component is the foundation of the research as it clearly guides the study about what questions to be answered, what information is relevant, what data to collect and how this data will be analysed. De Vaus (2005: 9) explained the importance of a research design as *“to ensure that the evidence obtained enables the research to answer the initial research question or problem”*.

The study is evaluation of outcomes and it is empirical in nature in that there will be an evaluation of numeric and textual data from secondary and existing sources, as well as primary data from respondents on the value chain and food security aspects (Mouton, 2002: 160). The study used a mixed-method approach in that, as much as statistical data (number of employment created, food crop/grain production and percentage contribution towards the GDP) was needed, a strong base of key informant interviews and focus groups helped with *“the synthesis of available quantitative data sources being used to ensure that qualitative data is adequately representative and to permit the extrapolation of the findings to other populations”* (Bamberger, Rao and Woolcock, 2010: 5).

3.3 QUESTIONNAIRES

A questionnaire survey was conducted with residents of the four villages neighbouring the Kalimbeza Rice Project, to determine the extent of the effects of the rice project on the livelihoods of the people. The four villages have a population of about 1000 people, of which 25

questionnaires was distributed in each village. Random sampling was used to select the participants.

3.4 DATA COLLECTION

The study used two data collection approaches, namely interviews with aid of a structured and semi-structured questionnaires and documentation in the form of newspaper reports and press releases.

3.4.1 Interviews

Qualitative and quantitative data (Mixed Approach) were collected through structured and semi-structured interviews from the coordinator of the Kalimbeza Rice Project, the induna (headman), the councillor of the Kabbe Constituency where the Kalimbeza area falls, the chief agricultural researcher in the Caprivi Region in the Ministry of Agriculture and Rural Development, and the National Planning Commission's Director of Monitoring, Evaluation and Donor Funding. The Induna and the councillor were interviewed mainly on employment and livelihood opportunities created by the Kalimbeza Rice Project. Interviews were held with the project coordinator in order to evaluate the Kalimbeza Rice Project's successes, challenges, and the value chain. The chief agricultural researcher and the director of the monitoring, evaluation and donor funding were interviewed to solicit more information on the Green Scheme Programme, and specifically the Kalimbeza Rice Project's contribution to the country's economy. Information on intended and unintended impacts was solicited from the interviewees.

3.4.2 Documentation

Quantitative data was obtained from secondary sources such as previous research reports, government, publications, newspapers and other publications (Kayuni, 2005: 7). Documentation was vital in this study because numeric data on employment creation, crop production and Gross Domestic Product records were needed. Also, documentation on the value chain of the Kalimbeza Rice Project and reports on food security were collected. The rationale for selecting this tool was because numeric data in terms of employment, crop production and Gross Domestic Products can only be found in existing/secondary data sources.

3.5 FOCUS GROUPS

According to Polosnky & Waller (2005: 111), focus groups “involve a moderator listening to a group of targeted participants talk about a particular subject of interest”. In this study, focus groups were used to collect data on food security and overall outcomes and impacts of the Kalimbeza Rice Project. Members were purposefully selected from the population of the Kalimbeza Area in order to give their opinions about the effects of the Kalimbeza Rice Project on the lives of the local residents.

3.6 RESEARCH SAMPLING

The study area covered four villages neighbouring the Kalimbeza Rice Project. Nonprobability sampling, using the purposive sampling approach had been used in selecting the targets. Ten per cent of the approximate population of 1000 were consulted.

3.7 DATA ANALYSIS

Data analysis took the form of structured and quantitative methods on the quantitative data aspect of the study (Mouton, 2011: 160). Therefore, content analysis was used. The quantitative data collected determined whether employment creation has taken place, whether there has been an increase in crop production, resulting in improved food security; and evaluating whether the project had contributed to the GDP of the country. Semi-structured and qualitative data analysis methods were used to analyse data on food security and on the nature of the value chain. Qualitative data on food security was analysed on the basis that people had or had not have enough food supply most times of the year. Data on value chain was analysed based on how many jobs or levels of employment were created from planting, harvesting, processing, and packaging up to marketing of the rice.

3.8 CONCLUSION

The research is an evaluation study of the outcomes of a socio-economic programme. Questionnaires, interviews and documentation were used in the data collection process. A nonprobability sampling approach had been used in selecting the targets. Data collected was analysed using quantitative, semi-structured and qualitative data methods.

CHAPTER 4

RESEARCH FINDINGS AND DISCUSSION

4.1 INTRODUCTION

Chapter four presents research findings based on the study's research objectives and tries to answer research questions asked earlier in this study. Key research findings are presented from section 4.3 to 4.20, and conclusions are deduced in chapter five.

Agriculture is central to the livelihoods of many people in Africa, where poverty is “*still predominately rural, and a majority of the rural poor is dependent on the agricultural sector*” (The World Bank, 2008: 71). Given the importance of the agricultural sector's role in poverty alleviation, it is evident why Namibia as a country has come up with the Green Scheme Programme in order to reduce incidences of poverty. The Green Scheme Programme has many projects across the country that aim at improving the living standards of the country's people, especially the rural poor.

4.2 THE KALIMBEZA RICE PROJECT'S EFFECT ON THE QUALITY OF LIFE

According to the respondents from the communities, the Kalimbeza Rice Project has had direct or indirect effects on the locals' quality of life. As defined by WHO (2004: 299), quality of life refers to an individual's perception of their position in life with emphasis placed on physical health, psychological state, level of independence, social relationships, personal beliefs and their relationship to noticeable features of their environment.

About ninety per cent of the respondents were of the opinion that the Kalimbeza Rice Project has improved their quality of life. The local community has observed major improvements in employment created, as many locals were unemployed before the introduction of the rice project. Before the introduction of the Kalimbeza Rice Project, locals were forced to leave the Kalimbeza area and head into towns in search of jobs or had to rely on subsistence farming which was not bringing in enough income. Leaving the Kalimbeza area in search of jobs in towns meant leaving

behind the young and the elderly on their own, thus compounding these less active groups of society into poverty. The respondents felt that finding permanent and temporary work at the rice farm has in itself been a major achievement as many of them had never been employed before. This created a feel-good factor that had a positive psychological effect among community members.

The respondents added that employment at the Kalimbeza Rice Project has improved their quality of life in that they now earn salaries that enable them to satisfy needs. The ability to earn money has reduced poverty in that people can now buy food, clothes, pay school fees and to pay for luxuries such as radios and television sets. Importantly, the salaries have created independence among the youth who were still dependent on their elderly parents' pension pay benefits for survival. The youth who have been employed at the rice project have therefore reduced the burden of care usually carried by senior citizens in rural areas. The financial independence brought by the Kalimbeza Rice project has resulted in less begging and stealing as nearly everyone has a salary. The reduction in begging and stealing within the community, coupled with the fact that many people from different villages of the Kalimbeza area meet and share ideas while working at the rice farm, has strengthened social relationships as there are less fights and arguments.

The respondents believe that their quality of life has improved through knowledge acquisition, where employees of the Kalimbeza Rice Project are taught different aspects of rice production such as land preparation, transplanting, planting, best methods of guarding against birds and animals, and harvesting. The farming knowledge and skills acquired at the Kalimbeza Rice Project have been beneficial to locals. They now combine these with their traditional knowledge and skills in the production of their local produce such as maize on their own small fields. The rice farm has improved the quality of life in that food security has been enhanced, as locals buy rice at a cheaper price and directly from the farm. Lower rice prices mean that locals can buy rice in bulk, resulting in enough food stocks for longer periods. No transport costs to buy rice at the rice farm have been a big motivation for rice consumption. Before the Kalimbeza Rice Project locals could not afford the transport costs to town simply to buy rice.

However, about ten per cent of the respondents stated that the quality of life of the local community has not changed because the salaries paid are very low in comparison to the work done at the Kalimbeza Rice Project. Not all the unemployed locals have been given jobs at the farm. Furthermore, the respondents stressed that there is abuse of labour, as the lower salaries cannot cater for all the needs of the people. There is no job security as it is easy for workers to get dismissed from the farm. They added that as long as not all the people from the community can be employed at the farm, the improved quality of life is only for those that work at the farm, while the rest still remain in poverty. Lastly, the fact that work at the farm for the majority is on temporary basis, means unsteady income. The respondents stated that life is hard in the seasons or months that they are off as they are not receiving any pay. The locals' lifestyles have now become heavily dependent on money earned from the people working at the rice farm, making it difficult for many to find alternative sources of income during the off-season.

4.3 THE STATE OF MEDICAL SERVICES SINCE THE INTRODUCTION OF THE KALIMBEZA RICE PROJECT

Medical services refer to any preventative health care or treatment provision that may have been or are made possible by the introduction of the Kalimbeza Rice Project. Twenty five per cent of the respondents stated that the introduction of the Kalimbeza Rice Project has improved their access to both preventative and treatment medical services, such as the availability of condoms at project offices. This reduced the spread of sexually transmitted diseases in the community. Also, whenever a project employee falls sick or gets injured while on duty, the project is responsible to transport the employee to the nearest medical facility. In addition, they also stated that the local clinic is now well functioning and equipped since there are frequent visits by farm employees. The above points imply that before the introduction of the Kalimbeza Rice Project, access to condoms, transport to get to medical facilities and the chances of finding a nurse or medicine at the local clinic were limited. Seventy five per cent of the respondents stated that the Kalimbeza Rice Project has not improved the state of medical services in the area, as the local clinic was there before the rice project was introduced.

4.4 THE KALIMBEZA RICE PROJECT'S EFFECTS ON THE LEVEL OF EDUCATION

Ninety per cent of the respondents stated that the Kalimbeza Rice Project has improved the community's level of education. The adults have acquired on-the-job farming knowledge and skills from the working at the Kalimbeza Rice Project, which they now apply when ploughing their own fields for subsistence purposes. Meanwhile, the salaries earned from the rice project have enabled many parents to put their children in good schools in towns, where the children get a good education. The respondents explained that before the introduction of the Kalimbeza Rice Project, many of them could not afford to pay school fees, buy school uniforms or even supply breakfast and lunch for their children. The inability to afford education's basic needs led to many children dropping out of school due to shame.

The remaining ten per cent stated that there has not been an improvement in the local community's level of education as a result of the Kalimbeza Rice Project. This particular group explained that the Kalimbeza Rice Project does not directly pay school fees or buy school uniforms for local children. This group believes that the project is not improving the community's level of education, except in the case of employee's children who use their salaries to pay for their children's education. This left children, whose parents are not employed at the farm, without an education or the opportunity to achieve a good education to attend school without the necessary materials needed.

4.5 THE TYPES OF PUBLIC SERVICES AS THE RESULT OF THE KALIMBEZA RICE PROJECT

All of the respondents stated that they have noticed an increase in public services in villages around the Kalimbeza area since the introduction of the Kalimbeza Rice Project. The most noticeable public service is the gravel road that links the Kalimbeza Rice Project to the region's capital, Katima Mulilo. Other noticeable public services are safe drinking water, as water is supplied to villages from the Kalimbeza Rice Project's water works. Electricity has also been made available in villages such as Kalimbeza, Libula, Isize and Sifuha. A communications-network tower that supplies cell-phone and internet coverage to about five villages has been

erected in the area. Lastly, the community has access to farm equipment and machinery such as tractors for personal use at cheaper prices.

The respondents explained that before the introduction of the Kalimbeza Rice Project, access to villages in the area was difficult due to bad road infrastructure. The road that linked the villages to the main town was a mere track. The track made it difficult to travel to and from town during the rain or flood season. The gravel road has made travelling easier. The gravel road is significant in the lives of the locals because it is now easy to have access to better medical facilities, shops and public offices located in the region's capital. Locals used to fetch water for household use from the Zambezi River before the introduction of the Kalimbeza Rice Project. Fetching water from the river was both dangerous and tiring, in that locals were prone to crocodile and hippopotami attacks. Fetching water was time consuming, as the river is not close to the village. Villages are now connected to the Kalimbeza Rice Project's water network, thus providing safe and clean water for people and animals. The provision of electricity means that the community has the luxury to use modern energy sources. Locals have moved away from battery powered radios and candle-lit rooms to electricity powered electronics and lighting. The community further explained that they would pay about N\$400.00/ha to private tractor owners before the introduction of the Kalimbeza Rice Project, but now only pay N\$150/ha for the private use of the project's tractors. Communities can either now save money or even plough bigger portions of their fields as it is affordable.

4.6 IMPACTS OF THE KALIMBEZA RICE PROJECT ON THE NATURAL ENVIRONMENT

Ninety eight per cent of the respondents stated that the following environmental misfortunes have occurred since the introduction of the Kalimbeza Rice Project: floods, deforestation, soil erosion, drought, veld fires, and air and water pollution as well as an increase in the number of birds and wild animals. The locals explained that floods are now severe because of raised farm boundaries. The boundaries are raised to trap water in the farm, as rice is a water-intensive plant and to prevent floodwater from flooding the plants. Much of the floodwater from the Zambezi River no longer follows the flood's natural path as a result of raised farm boundaries. This results in floodwater flowing into low-lying villages. In cases where the rice fields get flooded, water takes as much of the chemicals used at the rice farm. The contaminated water is washed away

into the flood plains or back into the river. Water pollution as a result of chemicals used at the rice farm is harmful for people, animals and plants of the Kalimbeza area.

Deforestation is common as land is cleared in order to create farming spaces, losing a percentage of indigenous plants as well as the grazing areas of indigenous animals. Soil erosion takes place as a result of massive deforestation, leading to no vegetation cover and rice uses much water that increases runoff. The issue of soil erosion is a major concern among locals, as they doubt if the soil is still as fertile as it was before the rice farm was introduced. The respondents stated that there has been an increase in drought cases since the introduction of the Kalimbeza Rice Project. The explanation for this is that the rice farm has taken a fertile piece of land where communities would plough; take their animals for grazing and the issue of raised farm boundaries that has prevented the natural flow of flood water. The introduction of the rice farm means that the communities had to find new fields that are usually not as fertile, resulting in poor harvests and thus compounding hunger.

Grazing lands for animals have been reduced and access to water points by the river have been blocked off by the rice farm's walls, thus making it difficult for animal farming. The prevention of the natural flow of flood waters by the raised farm barriers, mean that traditional flood plains, which were sources of food for people and their animals, are now dry as the water flow has been diverted. However, two per cent of the respondents stated that there have been no negative environmental impacts. Instead, the land, water and air resources are now utilised by the Kalimbeza Rice Project to the benefit of the community through employment creation and food production. The respondents stressed that benefits of the Kalimbeza Rice Project outweigh observed negative environmental impacts that may have occurred. The Chief Agricultural Technician and the Deputy Director in the Planning Division of the region stated that negative environmental impacts are minimal. A thorough Environmental Impact Assessment was carried out before the project commenced with its production activities (Mubita, 2013 & Kompeli, 2013).

4.7 TYPES OF JOBS AVAILABLE IN THE KALIMBEZA AREA

Above ninety per cent of the respondents mentioned that job opportunities in the Kalimbeza area ranged from subsistence fishing as well as formal employment at the Kalimbeza Fish Farm, Kalimbeza Rice Farm, in subsistence farming of crops and animals, game guarding and general

work at the local conservancy called Sikunga, and employment at local lodges such as Kalizo and Island View. Farming and fishing are mainly done for subsistence reasons and also for commercial purposes, where locals sell their catch to local lodge owners and to restaurants owners from the town of Katima Mulilo. Surplus harvests of crops such as maize and mahangu (sorghum) are usually sold to the local farmers union called Likwama.

The respondents explained that even though they are employed by someone in the fishing and subsistence farming sectors, the fact that they earn money from activities categorises these activities as employment. At the lodges and at the Sikunga Conservancy, community members do temporary work ranging from building offices, housing for employees, tourist rooms and chalets. Game guarding at the conservancy has created permanent jobs for locals, while permanent jobs in the form of cooks, bar tending, cleaning and security services have been created by local lodges. The locals worked as labourers building houses and offices of the Kalimbeza Fish Farm, and some locals are employed as general workers doing tasks such as cleaning of ponds, feeding and harvesting of the fish, and as security guards. People employed at the Kalimbeza Rice Project are involved in tasks such as transplanting, planting, and scare-crowding birds and animals. The remaining ten per cent of respondents stated that there are no job opportunities available in the local area. Jobs can only be found in urban centres.

4.8 AGRICULTURAL ACTIVITIES THAT THE COMMUNITY IS INVOLVED IN

As mentioned above in 4.8, there are two types of agricultural forms taking place in the Kalimbeza area. The first being subsistence farming of crops and animals that communities have practiced for generations, where locals mainly grow maize and rear cattle for household use. Maize is usually pounded and the maize meal used for the staple food, porridge, while cattle have many purposes such as a source of meat and milk, for ploughing as well as a sign of prosperity. Women are mostly involved in vegetable growing, as locals have small plots in the flood plains along the Zambezi River. The vegetables from these gardens are mostly for household use and the surplus always sold in order to earn an income.

The second agricultural form is commercial farming through the Kalimbeza Rice Project and the Kalimbeza Fish Farm. Communities have over the years secured temporary and permanent

employment on both the Kalimbeza Rice Project and the Kalimbeza Fish Farm, where locals are employed to carry out tasks such as those mentioned under 4.8. The commercial agricultural employment opportunities guarantee the locals of a steady income during the times that they are employed at the farms. The fact that many of the respondents occasionally secure temporary work at the rice or fish farm ensures that income is earned and that locals can improve their standard of living. The respondents claimed that although the income earned is less, their living standard is better than before because their workplaces at the local farms are near their villages, making it unnecessary to spend money on accommodation, rental and transport to get to work. The money earned from the farms simply goes into paying for basic needs.

4.9 THE KALIMBEZA RICE PROJECT AND INFRASTRUCTURE DEVELOPMENT

All the respondents stated that there is evidence of infrastructure development in many villages of the Kalimbeza area. Infrastructure developments have been observed at the Kalimbeza Rice Farm where modern offices, storerooms, employee accommodation, tap water, electricity, a communication tower, roads, and classrooms at the local school have been added. New lodges have since been built along the Zambezi River in the Kalimbeza area. The availability of employee offices and houses at the Kalimbeza Rice Project mean that farm activities are easily coordinated, as offices, houses and the actual farm are within proximity. Permanent housing structures, with running water, sewerage system and electricity greatly improve the quality of life of the employees and act as a labour attraction. The respondents explained that water, electricity, road and communications infrastructure have not only benefited the Kalimbeza Rice Project, but also the surrounding communities at large. Many, if not all the villages in the Kalimbeza area relied on Zambezi River and wells for fresh water supply before the introduction of the Kalimbeza Rice Project. The supply of electricity has meant that many of the villages in the Kalimbeza area now have running tap water, either directly connected to the rice project's water system or through the villages' own electrical water pumps that draw water from the underground. The respondents added that the availability of safe and clean water has improved the health of the people. Before, the water from the uncovered wells and the river water was full of impurities.

The road and communication infrastructures have made the Kalimbeza area easily reachable to the outside world. The gravel road has not only benefited the residents of Kalimbeza, but it is now the preferred transit route for people from deep lying flood plains such as Luhono, Ikaba and Nsundwa. Before the introduction of the Kalimbeza Rice Project the locals would have to take a much longer route using the Trans-Caprivi High Way. Previously, the trip to the local town would have been a two-day one, but now locals can run errands in the town of Katima Mulilo in a day. The volume of cars has increased due to newly constructed roads. The communication infrastructure means that locals have moved away from traditional letter writing or physically embarking on a journey in order to pass or receive information. Instead, locals now use cellular phones, making communication easy, fast and reliable. The use of cellular phones has improved communities' information and technology knowledge, as the young and old, literate and the illiterate all have jumped up to own and use these electronic gadgets, thereby enhancing knowledge.

4.10 COMMUNITIES' KNOWLEDGE ABOUT THE KALIMBEZA RICE PROJECT

All the respondents stated that they know about Kalimbeza Rice Project as a project where rice is produced; as an employment opportunity for locals; as government's way of bringing development close to the people and also as a project where not only rice is planted but currently bananas and tomatoes have being grown at the farm. The respondents explained that they know about rice being produced at the Kalimbeza Rice Farm, because there is no other project that produces rice in the region, meaning that the Kalimbeza Rice Project is unique and numerous people are aware of it. The community is also aware that the Kalimbeza Rice Project is a developmental government project because there are constant developmental meetings between the Zambezi (Caprivi) Regional Council representatives and the community.

4.10.1 FREQUENCY OF RICE CONSUMPTION IN LOCAL HOUSEHOLDS

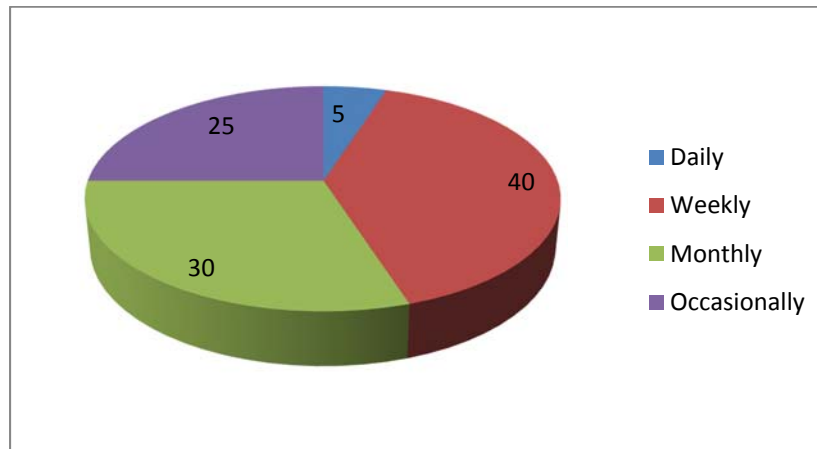


Figure 4.1 Rice consumption by local households

The research looked at rice consumption in households; with emphasis placed on how often people consumed rice. Five per cent (5%) of the respondents stated that they eat rice on a daily basis, mainly a source of breakfast for their school-going children. Rice only requires cooking oil and salt to make a meal. The above group further explained that they eat rice daily because it is readily available and cheap at the Kalimbeza Rice Project, and that the availability of rice within their reach has made many people in the area develop a liking for rice more than the staple food of porridge. Forty per cent (40%) of the respondents indicated that they consume rice on a weekly basis because rice is not their staple food, making it difficult to be consumed daily, as it is not part of their tradition. They added that sometimes rice runs out of stock at the Kalimbeza Rice Project offices. This forces people to buy rice from the offices of the Ministry of Agriculture in the town of Katima Mulilo. Most of the people cannot afford the transport costs, therefore, limiting the frequency of rice consumption.

Thirty per cent of the respondents indicated that they consume rice on a monthly basis, because rice is expensive, taking into account the little incomes that many locals make. They further reiterated that rice is not an everyday food source for the locals. Instead, people only eat rice when they feel the occasional urge to change the diet from porridge. This means that locals still prefer to have their staple food on a daily basis. Their argument is that rice, unlike porridge, does not have the right nutrients to keep the locals satisfied throughout the day, as they do not eat anything in between meals. Big family sizes within the community cannot allow families to buy

rice for everyday or weekly consumption, because there is only enough money to buy maize meal. Lastly, this particular group indicated that rice is their least favourite type and not the staple food, not readily available and requires many ingredients to make a full meal. The last group representing twenty five per cent of the respondents stated that they only eat rice on special occasions, because of the same reasons as those who consume rice on a monthly basis with emphasis on expensive rice prices, scarcity, tradition and lack of desire for rice.

4.11 THE PLACE WHERE LOCALS BUY THE KALIMBEZA RICE

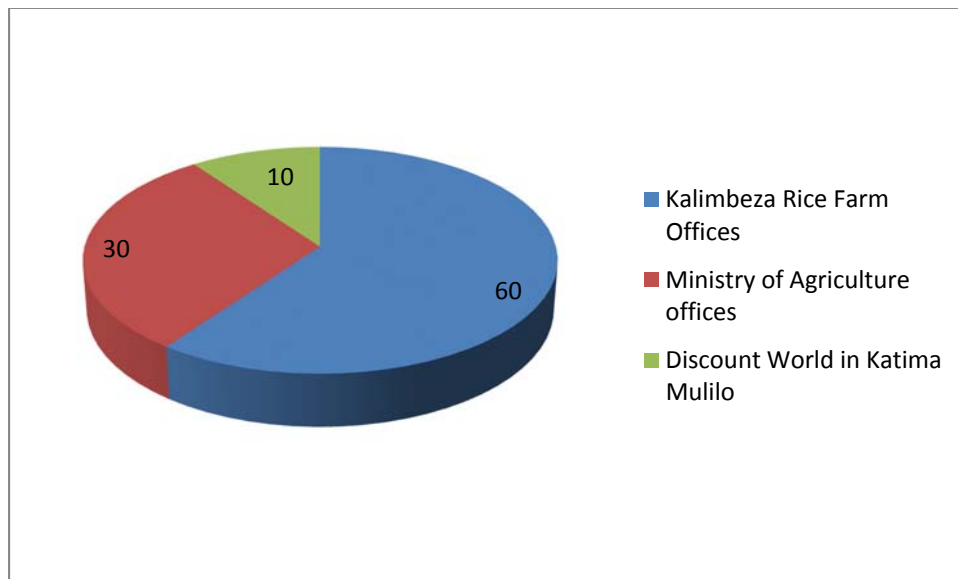


Figure 4.2 Places where locals buy the Kalimbeza Rice

The respondents were asked to mention the place where they buy the Kalimbeza rice that they consume. Although all the respondents reside within the same area, they had varying answers on where they acquire the Kalimbeza rice, with some respondents buying the rice product from close by and the others having to travel long distances. Sixty per cent (60 %) of the respondents indicated that they buy the Kalimbeza rice from the offices of the Kalimbeza Rice Project located in the Kalimbeza area. The respondents explained that they are given first priority by the project, thus they simply walk to the project offices and buy rice at a cheap price of N\$ 5.00/per KG, unlike imported rice in shops that goes for N\$ 12.00/KG.

Thirty per cent of the respondents indicated that they purchase the Kalimbeza rice from the offices of the Ministry of Agriculture situated in Katima Mulilo, a distance of about 30 kilometres. They explained that they buy from the Ministry of Agriculture because that is the place they were informed they could buy. The remaining ten per cent stated that they usually buy the Kalimbeza rice from a shop called Discount World in the town of Katima Mulilo. The respondents explained that since the people from the villages do most of their shopping in Katima Mulilo, it is convenient for them to purchase rice together with the other groceries in town. There seem to be a gap in information about where exactly the local community should buy the Kalimbeza rice without incurring further costs such as transport.

4.12 THE IMPACT OF THE KALIMBEZA RICE PROJECT ON FOOD SECURITY

The research tried to establish whether the introduction of the Kalimbeza Rice Project has directly or indirectly improved food security for the locals. Eighty five per cent of the respondents indicated that indeed the Kalimbeza Rice Project has resulted in locals having enough food to eat throughout the year. The respondents explained that before the introduction of the rice projects, people relied on porridge. People could not eat porridge without the availability of relish such as meat or fish, thus resulting in hunger for many households. Nowadays, locals do not need to have some relish in order to have a meal. Instead they simply need cooking oil and salt to eat rice, thus reducing starvation for many families during hard times when relish is not available.

Since the communities have discovered that unlike porridge that requires relish, rice has become the food that saves families from starvation. As families now buy the Kalimbeza rice in bulk in order to have enough throughout the year, encouraged by cheaper prices, the locality where the rice is bought from and the fact that rice harvests from the farm have been consistent, meant that food security has improved for households. The respondents further explained that the Kalimbeza Rice Project has indirectly improved food security through employment created. Locals who work at the rice project end up having enough money to spend on other food stuffs, apart from the local rice. The ability to make money has drastically improved the diet and dietary patterns of many locals, in that the staple porridge is supplemented by other food stuff. Before the introduction of the Kalimbeza Rice Project many locals did not have a choice of what to eat.

All they had was porridge for lunch and supper throughout the year, but now there is the choice of either eating the Kalimbeza rice or to buy other types of food with the money received from working at the Kalimbeza Rice Project.

The remaining 15% of the respondents indicated that the introduction of the Kalimbeza Rice Project has not improved the food security for many local households. The respondents explained that the locals still go hungry even-though rice is available as rice it is not the staple food, meaning that many locals do not look at as an alternative food source, thus they would rather go hungry than eat rice. The other reason that the Kalimbeza Rice Project has not improved the food security of many local households is that rice is not given to communities for free. Many locals, especially the unemployed cannot to afford buy the Kalimbeza rice regardless of the cheaper prices given to them. The existence of the rice project has not had any positive effect on the poor and the unemployed. Lastly, the respondents added that there are years when harvests have not been good. That usually put strains on the locals who have adopted rice as a staple food. Poor harvests always result in higher prices as demand increases and this limits stock for consumption throughout the year.

Harvests have not been constant over the last few years. The lowest harvest had been 13.8 tons in the year 2010 and the highest yield was 35.7 tons in 2012. These yields do not include broken rice yields, and it is important to note that the greatest factor that contributes to low experience is attributed to flood damage. The table below shows the yields in tons over a couple of years.

Table 4.1: Hectares planted per year (last five years) and the yields in tons.

| Year | Hectares Planted | Yields in Tons |
|------|------------------|----------------|
| 2009 | 25ha | 34tons |
| 2010 | 30ha | 13.8 ton |
| 2011 | 25ha | 36 tons |
| 2012 | 20ha | 35.7 tons |
| 2012 | 20ha | 15 tons |

Source: Kompeli, P. (2012)

From the above table, it clear that production at the Kalimbeza Rice Project has been inconsistent in both the numbers of hectares as well as yields from year to year. The table shows that there has been a decrease in the number of hectares planted. Instead of increasing the number of hectares in order to achieve good yields, food security is improved in the process.

4.13 THE INTRODUCTION OF THE KALIMBEZA RICE'S EFFECT ON DIETARY PATTERNS

The respondents were asked to indicate whether the introduction of the Kalimbeza Rice Project has changed people's dietary patterns. As explained in 4.14, ninety per cent of the respondents indicated that the Kalimbeza Rice Project has directly changed people's dietary patterns through the consumption of the project's rice or indirectly through payment of salaries which enables locals to buy more of other food stuff other than porridge. They further explained that there is recognisable increase in rice consumption among locals, with school going children carrying rice in lunchboxes to school on almost a daily basis. The remaining ten per cent (10%) stressed that dietary patterns have not changed because many locals still stick to porridge for the main meals throughout the year.

4.14 STEPS TO BE TAKEN TO MAKE THE KALIMBEZA RICE PROJECT NAMIBIA'S BIGGEST RICE PRODUCER

The research looked at what should be done in order to make the Kalimbeza Rice Producer Namibia's biggest rice supplier. The respondents had the following ideas: the expansion of the rice farm boundaries, the respondents feel that the current farm size is small, and the harvests from the current farm cannot sustain the rice needs of the entire country. They further stated that the marketing of the Kalimbeza rice should be intensified to cover the whole country, as for now the project's rice is only sold at three locations in the Caprivi (Zambezi) region. The locals believe that intense marketing of the rice throughout the country would lead to increased demand, and thus force an increase in production in order to meet the demand. For now, before the expansion in farm size and intensified marketing can take place, it is important to utilize all the spaces of the current farm by planting in all areas that have not been used before.

The areas of knowledge and technology among local people should be made a priority. Knowledge on best rice farming practices should be imparted on the locals so that the smallholding plan can take off. The Kalimbeza Rice Project would enhance its production as many local smallholders produce quality rice that would be bought by the project, thus increasing the project's output. Also, the current watering systems should be improved, as rice is water intensive and the frequently broken water system always slow down production. Lastly, there is an urgent need for advanced agricultural equipment at the rice farm, as this would greatly improve production.

4.15 GENDER ISSUES AT THE KALIMBEZA RICE PROJECT

The respondents were asked to indicate the gender representation at the rice farm, and the replies show that there are more women than men working at the rice project. There are only five permanent employees at the rice project and those are management members. The rest are temporary labourers that are employed and make up about 100 labourers per intake. Three out of five permanent employees are women, and the same pattern follows the temporary workers, where women are usually more than men.

The respondents explained that many men around the Kalimbeza area are not keen to seek employment at the rice farm, as they view rice farm activities as something that should be carried out by women. Traditionally, activities such as planting and harvesting are mainly done by women, meaning that traditional beliefs have affected the employment patterns at the Kalimbeza Rice Project. The respondents further explained that local men feel that there are better activities that they should get involved in, such as fishing or working at the local Sikunga Conservancy, thereby leaving the Kalimbeza Rice Project employment for women. The respondents stated that the Kalimbeza Rice Project does not discriminate based on sex when employing workers. Instead it is up to individuals to seek employment at the rice farm. However, gender-based roles are evident at the rice farm, with men usually carrying out hard labour tasks such as the pushing of wheelbarrows, while women undertake simple tasks such as sieving of harvested grains. Gender balance is evident at the Kalimbeza Rice Project in that the management at the rice farm consists of five people; three being females and two males. This greater female representation in the management of the rice farm, bonds well with Namibia's gender laws that require organisations to uplift women's participation at decision-making level.

The respondents were also asked whether the employment of women at the rice farm has changed the way domestic responsibilities were previously handled. All the respondents indicated that there has been positive and negative changes in the way domestic responsibilities are handled since women have been employed at the rice farm. The respondents stated that women no longer have enough time to raise the children or for any other household chores since they spend most of their time at the rice farm. Farm employees finish their daily duties very late and have to walk long distances from the rice farm to villages, resulting in tremendous exhaustion for many women who up to now still predominantly do most of the house chores very late at night. The respondents further explained that nowadays women have sacrificed raising families for the love of money. Many of the women are no longer dependent on men for support, therefore, the whole family fabric is slowly disintegrating. Some of the respondents claimed that there has been positive change in the way domestic responsibilities are handled, in that men and women now share household chores and share child rearing duties, as both parents spend time out of the house. This shared responsibility, especially on childcare has brought many families closer, as children form close bonds with their fathers, unlike before.

4.16 EXPECTED AND ACTUAL BENEFITS OF THE KALIMBEZA RICE PROJECT

The respondents were asked to state the benefits they thought would come from the introduction of the Kalimbeza Rice Project. The community members expected the introduction of the Kalimbeza Rice Project to avail jobs, which would lead to benefits such as good salaries. Salaries earned would enable people to improve their living standards, as locals would have money to afford better housing, good food, healthcare and children's education. Community members expected employment generated at the Kalimbeza Rice Project to financially empower locals, which locals believed that having money to spend would improve their socio-economic positions. Also, the community members expected the introduction of the Kalimbeza Rice Project to bring closer agricultural machinery and equipment. The locals believed the availability of machinery and equipment at the rice farm would be of great assistance in the locals' subsistence farming, where farm equipment and machinery such as tractors would plough the locals' field for free or for a small fee. The private use of the rice farm machinery and equipment would increase food for many locals who usually have no means to plough their fields.

The respondents added that they expected the introduction of the Kalimbeza Rice Project to bring about other developmental projects such as buildings and roads. The respondents explained that they expected to see employee houses and offices been built at the rice farm, as well as roads to connect the rice farm to urban centres. Farmhouses would drastically improve the lives of many employees, as they would live in houses with clean running water, modern sewerage systems and electricity. The road would not only be a link between the rice farm and urban centres, but communities would use this improved road infrastructure to allow access urban centres. Once rice production had started, communities expected the Kalimbeza Rice Project to have a strong social responsibility programme where rice grains would be donated to local schools to aid the government's efforts on the School Feeding Programme.

Actual benefits of the Kalimbeza Rice Project that have been felt by the community are job creation, farming skills and knowledge, increased access to food and general development. The respondents explained that jobs secured at the rice farm have improved the living standards of many of the locals through increased access to financial resources. Improved financial positions

mean numerous locals now spend enough on goods and services, thus improving the living standards.

4.17 MAJOR WEAKNESSES OF THE KALIMBEZA RICE PROJECT

As much as there are benefits or positives that have come along with the introduction of the Kalimbeza Rice Project, there are weaknesses too that hampered the successful achievements of the project's objectives. The research required the respondents to indicate the challenges that affect production at the Kalimbeza Rice Project. The responses ranged from the seemingly small farm-size, which the respondents feel affects the quantity of the harvests in that, the smaller farm-size, the smaller the harvest. Bad security measures against birds, insects and animals are also a major weakness at the Kalimbeza Rice Farm, where birds and animals such as elephants usually destroy the rice plants. Poor irrigation systems as a result of sporadically broken water pumps affect the growth of the rice plant. Rice is water intensive and will not grow without water.

The respondents further indicated that the Kalimbeza Rice Project faces the challenge of having out-dated and few agricultural machines and equipment. The lack of machines and equipment slows down rice production as production at the farm takes the more ineffective labour intensive route. The respondents stated that low employee morale due to lower and usually delayed salaries affected production at the rice farm, because employees hardly perform to the best of their abilities when issues of their salaries are of concern. The other challenge is the issue was the lack of punctuality among the workers. The employees usually arrive late for duty as many of them have to travel distances from their villages. Reporting late at work reduces the hours that employees should spend on the job, thus negatively affecting production. Excessive flooding by the Zambezi River usually affects the rice production at the Rice Farm, as the farm lies in the flood plains of the mighty river. The flood challenge is worsened by the lack of effective flood control measures at the Kalimbeza Rice Project. Lower numbers of permanent employees are also a major challenge, as temporary employees tend show low commitment to the job. In other words, temporary employees hardly take any responsibility for any wrong as they know that they may not be there tomorrow. When this unfortunate mentality comes in, many wrong decisions that can hamper production are bound to be taken.

The respondents added that the Kalimbeza Rice Project has faced challenges in uplifting the living standards of communities. Challenges included low salaries, where the communities feel that the project is underpaying employees. Work done at the rice farm is often hard and carried out in difficult and frequently wet conditions that pose health risks. The respondents were also of the opinion that the Kalimbeza Rice Project has failed to create adequate employment opportunities, as only about a hundred people have been employed at a time. The failure by the Kalimbeza Rice Project to employ as many locals, results in many people loitering without any income, thus compounding the poverty levels that existed before the project was introduced. The respondents stated that there is a lack of understanding between the project's management and workers, which usually lead to unfair dismissals.

The constant unfair dismissals create uncertainty among workers. The workers are usually anxious, unsure and stressed about whether they will still have their jobs the next day. The respondents further stressed that the Kalimbeza Rice Project does not have an effective social responsibility programme in place. This is evident in the Kalimbeza Rice Project's failure to donate rice to orphans and vulnerable children, the elderly, the school feeding programme or to poor households during times of drought. Lastly, the respondents stated that the project has failed to provide basic needs such as safe drinking water, the employees tend to drink unpurified water intended for irrigation, as well as the failure to provide hostel accommodation for temporary employees who come from afar.

The research also attempted to establish environmental challenges that might have appeared as a result of the introduction of the Kalimbeza Rice Project. The respondents indicated that floods have worsened around the Kalimbeza area, because farm walls have been raised in an attempt to control flood waters from the river. However, the farm walls have subsequently diverted the natural flow of the flood water, resulting in flooding of many villages that were never flooded before. Deforestation has also been witnessed, as massive pieces of forests were cleared to make way for the rice farm. Many native plants and animals, which survived in the ecosystem where the farm now stands, have been lost, thus affecting the ecosystem of the Kalimbeza area. Soil erosion has resulted from the mass clearing of the land and mass watering of the rice plant. Soil erodes easily in the absence of vegetation cover, and high volumes of water used to irrigate the water intense rice plant. This had a negative effect on the quality of the soil. Lastly, the

respondents indicated that there is soil pollution because chemicals are used to fertilize the soil, as well as to treat the rice plants against insects. These chemicals and insecticides are foreign to the natural soil composition of the area, of which the long-term soil value will be lost.

The above-mentioned challenges are difficult to monitor as the research found that there is no monitoring and evaluation system in place to keep the progress made at the Kalimbeza Rice Project in check. The failure to put a monitoring and evaluation system in place makes it difficult for the project management team to make the right decisions. This would help the project achieve its objectives, as there is no benchmark to measure progress or lack of progress.

4.18 OPPORTUNITIES THAT THE KALIMBEZA RICE PROJECT CAN PURSUE IN ORDER TO BE A TOTAL SUCCESS

The research aimed at finding the opportunities that the Kalimbeza Rice Project could focus on in order to achieve its intended and unintended outcomes. The aim is to uplift the socio-economic standards of the communities. The respondents stated that farm management and all workers at large should work hard in order for rice production to be increased. By working hard, the respondents explained the need for the expansion of the farm size, as there are vast unoccupied areas in the flood plains of the Kalimbeza area. The bigger the rice farm, the higher the possibility of achieving bumper harvests. There is a need to diversifying the crops grown at the farm. Other food crops such as fruit and vegetables should be planted in order to improve food security.

As excessive floods have been the major challenge for good harvests, there is an urgent need for the introduction of an effective disaster management system at the farm. The respondents were also of the opinion that absenteeism, reporting late for work and illnesses would be reduced by setting up a wellness centre or a medical facility at the farm. The respondents observed that health reasons are the common cause for people to stay away from work. The respondents added that rice production is slowed down by an unskilled labour force. The Rice Project should employ more qualified technicians, whose skills would benefit the unskilled temporary workers. Rice production can also be increased by purchasing more advanced farm machinery and equipment. Superior and cutting-edge machinery and equipment have the potential to double or triple the efforts of out-dated machinery and equipment.

The respondents were asked to explain how the Kalimbeza Rice Project can create more employment opportunities as this is one direct way to empower the locals. The respondents suggested that there is an urgent need for total decentralisation of the project's operations and functions, from Katima Mulilo and Windhoek to farm premises. Decentralizing the Rice Project's operations and functions would mean more employees and more office buildings. Expansion of farm boundaries would mean a bigger area to plant the rice, thus requiring more labour. The bigger the farm, the higher number of people needed. Lastly, an attractive salary package should be put in place, as money seems to be a great motivation for several employees. As the current salaries are deemed low, that may demotivate possible employees.

The respondents were also asked about what gender opportunities would be created at the Kalimbeza Rice Project. The respondents suggested that it should be a mandate to employ equal numbers of both males and females, so that no sex feels left out. The current state where men seem to be doing tasks that are perceived difficult, while women are allocated tasks that are perceived easy, should be done away with. The women working at the Kalimbeza Rice Project can only be fully empowered if and when there is no task allocation based on sex. Instead, tasks should be based on ability and skill. It was indicated earlier in this study that there are fewer men working at the rice farm, which means there is an opportunity for the Kalimbeza Rice Project to hold awareness campaigns targeting men to seek employment at the rice farm. The benefits of employment know no gender.

There is also an opportunity for the Kalimbeza Rice Project to be environmentally friendly. The respondents were asked to mention steps that can be taken in order to mitigate the environmental impacts caused by the introduction of the rice project. The major steps to be taken are the reduction in the use of chemicals that are harmful to both soil and water, and to rather adopt environmentally friendly practices. Deforestation must be stopped. Instead of chopping down countless trees, the project should use flood plains.

4.19 CONCLUSION

The study found that the Kalimbeza Rice Project has had a positive impact on the lives of the communities. The positives have come in the form of employment creation, infrastructure, education, services, food security and the empowerment of women. However, the study also

found weaknesses in the Kalimbeza Rice Project. Weaknesses that stood out are the limited size of the farm, which halved mass production, lack of proper security measures to guard against birds, animals and insects that destroy the plants, out-dated machinery and equipment, low salaries that demotivates locals from seeking employment at the farm, and damage to the environment in the air, water and soil pollution as a result of farm activities.

CHAPTER 5

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 INTRODUCTION

In this chapter key findings of each specified objective are provided, as well as conclusions that are not directly related to the research objectives. Recommendations to the Kalimbeza Rice Project's management team of how to maximise the potential of the project in improving the socio-economic positions of communities. The Kalimbeza Rice Project, as a developmental project like all the other projects of the Green Scheme Programme, is continuously called upon to improve the country's food security, create employment at grassroots level, contributing to the country's Gross Domestic Product through sales of the rice product as overall improvement of the lives of the local community and that of the entire country's people.

The Kalimbeza Rice Project is of great value for Namibia to achieve food security as rice consumption has increased drastically in many households. Unfortunately considerable, if not all, of the rice products sold across the country, are imported, making it unaffordable for the locals. The production of the imported rice does not benefit the Namibian people in any way. The introduction of the Kalimbeza Rice Project is a great idea of bringing development to the people, at the same empowering them through job creation and increased food security. Throughout the years, the Kalimbeza Rice Project has endeavoured to improve food security through increased rice production, creating employment and positively contributing to the socio-economic improvement of communities.

5.2 SUMMARY FINDINGS

The summary findings of each specified objective is presented as indicated.

5.2.1 Research Objective Number One

To critically review the employment types and magnitude created through the value chain by the Kalimbeza Rice Project in the Kalimbeza district.

As a state-led development initiative, the Kalimbeza Rice Project has proved that the agricultural sector has the potential to create employment. During the rice-growing season from the year 2002, the Kalimbeza Rice Project has managed to employ on average 100 casual workers on a monthly basis. Many locals work at the rice farm during the planting season, where locals are involved in the preparation of the land, transplanting and planting of the rice. Many other employment opportunities are created during the harvest season, where locals are employed in the packaging of the rice product. Not only has employment being created during the growing season, but even in the off seasons. Locals have found work in the construction of employee houses, new office complexes, roads that lead to the rice fields and on other farm infrastructure such as the fence and water systems.

The research found that the Kalimbeza Rice Project has indeed created many employment opportunities for many locals who would otherwise not have had the opportunity to be employed in their lifetime. The research further found that the Kalimbeza Rice Project's aim is not to simply create employment for the locals, which brings short-term benefits such as financial independence that enables locals to cater for their basic needs. Instead, in the end, the project empowers the locals with agricultural skills and knowledge, which should enable them to sustain their livelihood beyond the cultivation of rice. As work on the rice farm is only temporary for many locals, the skills and knowledge acquired from working on the farm supplements the indigenous farming knowledge.

Traditionally, women in the Kalimbeza area were not allowed by their husbands or family members to seek any form of formal employment, as men were viewed as sole providers of the family and women as child-bearers and caregivers. However, the Kalimbeza Rice Project has overcome this barrier, as there are usually more women than men working at the rice farm. The employment of women clearly indicates that the Kalimbeza Rice Project has managed to create employment opportunities for the previously marginalised groups such as women. The research found that employing women had a positive impact on the Kalimbeza communities, as women are more likely to spend their income on goods and services such as food, clothes education and health, which uplifts the socio-economic positions of families. Unlike before, when men were sought to be the rightful breadwinners of the family, most men would spend their salaries on unworthy causes such as alcohol or on other women at the expense of the family.

The value chain of the Kalimbeza rice is not sophisticated as the research found that all that is done once the rice is harvested, rice grains are packed in 50 KG bags right there at the Kalimbeza Rice Project offices. This short chain limits the number of employment opportunities that could have been created if proper packaging and processing of the rice was adopted. Whoever is willing to buy the rice either buys the entire 50 KG or buys in smaller quantities from the 50 KG, using a scale. The point being made is that a properly organised value chain would have created more employment opportunities from planting, harvesting, and packaging in different sizes, labelling, and transporting, marketing and selling of the Kalimbeza Rice Product.

In summary, the Kalimbeza Rice Project is trying to create employment for almost all the people in the Kalimbeza area. As seen in the project's rotational employment system, individuals work for either one month or three months, and then sent home for exactly the same period in order for another group of individuals to assume work. However, with all these employment opportunities created, communities feel that the salaries earned from working at the rice farm are too low in comparison to the work done. Many people cannot afford to cater for all their basic needs. Also, communities are not happy with the temporary working system as it makes life difficult during the periods when work at the rice farm is not available. Therefore, communities call for the creation of permanent positions as well as better salaries for people working at the Kalimbeza Rice Project.

5.2.2 Research Objective Number Two

To examine the contribution of the Kalimbeza Rice Project on food security for the people

Namibia is a net importer of food (WTO, 2004). It is important for the country to create projects such as the Kalimbeza Rice Project to help shift the food sources from imports to self-production and reliance. Like in the rest of Sub-Saharan Africa, the research found that rice has shifted from being a meal for special occasions such as weddings to an everyday food source for many people in the Kalimbeza area (IRIN Africa, 2010: 1). The research found that the Kalimbeza Rice Project has improved communities' sense of food security. As the rice product from the Kalimbeza Rice Project is much cheaper compared to imported rice, the locals buy the rice directly from the farm, saving transport costs.

The Kalimbeza rice has not only improved food security for the locals, but has given many communities a dietary option between the staple porridge and rice. The research also found that there has been major improvements in food security among community members who work at the Kalimbeza Rice Project. The salaries earned at the rice farm enables the locals to buy more nutritious food than rice and porridge. The above statements show that workers at the Kalimbeza Rice Project can now eat what they choose. Before they were employed, they only ate what was available. However, the research also found that there are still community members whose food security has not improved at all. The reason can both be that these individuals are unemployed, and thus have no income to enable them to buy the Kalimbeza rice as the rice is not free, or simply because rice is not the staple food for many households, and people still go hungry in the midst of the availability of rice.

In summary, the Kalimbeza Rice Project has improved the food security of people around the Kalimbeza area, the whole region and also in some small ways that of the country. Food security has been improved in that the rice product from the Kalimbeza Rice Project is cheaper, making it affordable even for the less fortunate. It has also improved the food security situation through employment creation, where people can now earn money to spend on food.

5.2.3 Research Objective Number Three

To review the Gross Domestic Product (GDP) contribution of the Green Scheme Programme to the Namibian economy

The research found it difficult to determine the Kalimbeza Rice and the Green Scheme Programme's GDP contribution to the country's economy. The reason for the lack of figures can be, that the rice project has not yet been commercialised. As explained by the Chief Agricultural Officer when asked about the Kalimbeza Rice Project's contribution towards the country's GDP:

“The figures for the rice sales are with other Division because we do not have a sub receiver but all the money generated is deposited into the government account, the project has no account at the moment, but that will be sorted out once it is transformed into a green scheme.” (Kompeli, 2013).

The above response indicates that at the time of writing, each project of the Green Scheme Programme is individualistic. The research also established that there is clear lack of

coordination between the Green Scheme Programme and the various projects, and most importantly, a lack of coordination within each project's activities. A lack of coordination within the different divisions of the Green Scheme Programme is evident by the Kalimbeza Rice Project team's failure to know what amount has been raised from the rice sales at the Kalimbeza rice farm. In summary, the Kalimbeza Rice Project's contribution to the country's economy is unclear, because their figures of the rice sales are not available. Income tax paid by the workers is insignificant as the majority of the workers are temporary and do not pay any tax.

5.2.4 Research Objective Number Four

To analyse the overall impact of the Kalimbeza Rice Project on the lives of the local people and the nation as a whole

The research found that there has been an improvement in the lives of several members of the communities. Firstly, those community members who worked and those still working on the rice farm. Most of the people who worked at the farm rice farm have been financially empowered, enabling them to for pay goods and services such as food, housing, and health services that are vital for a good quality of life. Secondly, the locals who did not benefit directly through farm employment have instead benefited through services such as water, electricity, communication and infrastructure such as roads, which have been introduced in the local area as a result of the Kalimbeza Rice Project. Local villages have safe drinking water that comes from the water system of the rice farm. Villages not connected to the rice farm's water system, use electrical water pumps to extract clean underground water. Electricity has dual benefits for communities: as a power source for household appliances as well as a major source of water supply.

The erection of the communication tower as well as the construction of the gravel road, which links the farm and local villages to the town of Katima Mulilo, have made communication and travel easy. Many local community members now own cellular phones, mostly bought from salaries earned from the Kalimbeza Rice Project or at times given to locals by relatives. Travel between villages in the Kalimbeza area and town has been made easy by the newly constructed gravel road, as the frequency and volume of cars using the road have increased. The research also found that by simply working on the rice farm, many people's lives have change for the better as they now have something productive and progressive to do with their time, unlike before where time was spent doing unproductive things such as drinking alcohol.

The standard of living for many locals has improved since the introduction of the Kalimbeza Rice Project. Although not directly attributed to the existence of the Kalimbeza Rice Farm, there has been a mushrooming of employment opportunities. Many lodges started operating, the Sikunga Conservancy has been introduced and many tourists were brought in to see the rice project and all the other developments. All these employment opportunities at the rice farm, the conservancy as well as at the lodges have enabled the communities to afford medical care, education for their children, food for the family and even some disposable income that communities spend on leisure activities.

Although, the benefits of introducing the Kalimbeza Rice Project outweigh the cost, it is important to note that the residents complain of excessive flooding, loss of grazing land, loss of hunting grounds, soil erosion and pollution that sometimes lead to water pollution from chemicals used at the farm. All of the above-mentioned negative events impact negatively on the interaction between the communities and the natural environment that they have lived on for years.

5.3 CONCLUSION

The research was an evaluation of the Green Scheme Programme: A case of the Kalimbeza Rice Project. According to the World Development Bank, agriculture is important in reducing rural poverty, especially in developing countries. The majority of people in developing countries still live in rural areas and depend directly or indirectly on agriculture for their livelihood (World Development Bank, 2008: 26). Namibia's Green Scheme Programme aims exactly at increasing agricultural production, to promote food security at national and household levels, to promote value addition and job creation (Republic of Namibia, 2008: 1). With clear objectives of the Green Scheme Programme, it is, therefore, the responsibility of individual projects to make sure that rural poverty and hunger are reduced through successful implementation.

The Kalimbeza Rice Project currently employs about 100 temporary employees per month out of a population of about a 1000 people and yields about 27 tons of rice per year. Consequently, the Kalimbeza Rice project still has a long way to go in order to achieve its goal of reducing rural poverty and hunger. The conclusion is that the Kalimbeza Rice Project is not maximizing production, as only about 25 hectares of the 193 hectares have been utilized throughout the

years. The research also noticed that there have been funding and technical challenges that have slowed the Kalimbeza Rice Project's aim of uplifting the socio-economic positions of the communities.

In terms of employment creation, it can be concluded that the Kalimbeza Rice Project a number of temporary positions was created, paying out slightly more than a million Namibian dollars in salaries to communities on a yearly basis. The salary of N\$ 1500.00 per month paid to temporary workers has made a big difference in many local people's lives. This gave the temporary workers money to spend on their basic needs, consequently reducing rural poverty and hunger. The introduction of the Kalimbeza Rice Project also created many other non-farm employment opportunities. The locals found work in the construction of houses, offices, farm infrastructure such as warehouses and storerooms, as well as jobs in road construction.

Although temporary positions were created both on and off the farm, the effect of temporary work is short lived. The people go back their suffering as soon as the contract is over. The Kalimbeza Rice Project management should come up with alternative permanent employment opportunities that can sustain the lives of the communities on a long-term basis.

The research established that the Kalimbeza Rice Project will not successfully improve the food security of communities and that of the whole nation as long as only 25 hectares of the total 193 hectares are utilised year after year. The reports surfaced through the local media early in 2013 indicating that severe hunger that will sweep across the country as a result of drought. The government and all the stakeholders should put all required resources into the Kalimbeza Rice Project in order to maximize production, and improve food security for the country's people.

Environmentally, the Kalimbeza Rice Project has some work to be done in terms of ensuring that soil erosion and pollution do not lead to water pollution of the water sources, specifically the Zambezi River. The river is a major food source for the locals, in terms of fish and other water fruits that communities catch or gather for survival. Socially the Kalimbeza Rice Project must contribute rice towards the government's school feeding programme and donate rice to the elderly, and orphans and vulnerable children.

Overall, more has still to be done for the Kalimbeza Rice Project to reduce rural poverty and hunger. Although some objectives such as jobs, food and infrastructure have been partially

achieved, it is important for the Kalimbeza Rice Project to speed up its operation to achieve the Vision 2030 of the country.

5.4 RECOMMENDATIONS

It is recommended that Public-Private Partnership (PPP) agreements are reached and strengthened so that communities can achieve sustainable development. Public and Private sectors should, therefore, share the responsibilities of infrastructure and service provision to communities, as well as to make sure that communities conserve natural resources and protect the environment. A strong Public-Private Partnership is highly recommended for all current and future developmental projects such as the Kalimbeza Rice Project. PPP will benefit communities in such a way that socio-economic and environmental sustainability will be achieved through a life value approach, which places sustainability at the top of public and private sector operations.

Secondly, it is recommended that projects such as the Kalimbeza Rice should empower communities, especially the youth, with knowledge and skills to secure jobs in other sectors of the economy such as manufacturing and service. Diversification from farm employment should be a priority as demanded by the country's structural transformation, with a shift from agricultural work to job opportunities in the manufacturing sector. Therefore, the youth must be equipped with knowledge and skills to enable them to make the shift from agriculture and in the process reduce unemployment.

Thirdly, it is recommended that technocrats be brought to the communities and tasked with the responsibility of skills transfer. A skills transfer programme must be developed for each developmental project, where training and development, capacity building and life skills are offered to the youth so that they may be able to sustain their livelihoods beyond the project.

It is also recommended that livelihood strategies for the greater benefit of the community be strengthened, in reference to the nature of employment at the Kalimbeza Rice Project, where people work on a monthly basis. It is important to improve contractual and labour matters in developmental projects, with long-term contracts being introduced so that communities' standards of living can be sustained for longer periods. The new contracts should be beneficial to both the Kalimbeza Rice Project as well as to the communities.

Lastly, it is recommended that government should take a lead by holding awareness campaigns to educate communities that projects such as the Kalimbeza Rice Project are not merely a crop production venture, but a livelihood strategy. The communities must be made fully aware that crop production is a livelihood strategy as it entails food production and poverty alleviation through employment creation. In the case of the Kalimbeza Rice Project, where communities do not value rice as a reliable food source, the Government should strengthen the awareness campaigns by bringing in a dietician to talk to the communities about the nutritional value of rice. Consumption of rice may increase as people begin to understand the nutritional value thereof.

5.5 AREAS OF FURTHER RESEARCH

The following areas can form part of new research areas for the Kalimbeza Rice Project's socio-economic development agenda going forward:

- (a) A comparison of the effectiveness of Kalimbeza Rice Project to all the other Green Scheme Programme's projects to evaluate if any progress is made.
- (b) Citizen's perceptions of projects of the Green Scheme Programme.

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APPENDIX 1

INTERVIEW QUESTIONS

INTERVIEW QUESTIONS: To the Induna (Headman), the Councillor of the Kabbe Constituency where the Kalimbeza area falls, the Chief Agricultural Researcher in the Caprivi Region in the Ministry of Agriculture and Rural Development, and the National Planning Commission's Director of Monitoring, Evaluation and Donor Funding.

Introduction

My name is Joseph Kamwi Subasubani, an MPA Student at the University of Stellenbosch. The reason for my visit to the Kalimbeza Area is to conduct an evaluation of the Green Scheme Programme: A Case of the Kalimbeza Rice Project. The purpose of this research is for academic purposes only and I will not use this Research for any commercial gain. The aim of the research is to evaluate the socio-economic outcomes i.e. employment, food security, intended and unintended outcomes, of the Kalimbeza Rice Projects on the lives of the surrounding communities. Below are a few questions. These questionnaires shall be destroyed to keep participant confidentiality six months after Graduation.

Biographical information

Name _____

Department _____

Position _____

Education _____

Age _____

Gender _____

—

Contact details: Tel _____ Email _____

1. At what level was community involved in the planning of the Kalimbeza Rice Project?

2. What have the benefits been of the Kalimbeza Rice Project?

3. What are the major negative effects on the environment of the Kalimbeza Rice Project?

4. Has the Kalimbeza Rice Project met its estimated job creation Potential?

5. Are there good-working conditions at the Kalimbeza Rice Farm?

6. What type off-farm opportunities have been created by the Kalimbeza Rice Project?

7. Is there monitoring and evaluation systems in place at the Kalimbeza Rice Project?

Yes [] No []

➤ If yes, what have been the major findings and lessons learnt?

8. Have specific households escaped poverty as a result of the Kalimbeza Rice Project?

Yes [] No []

Elaborate on your answer:

9. To what extent has the Kalimbeza Rice Project reduced poverty?

10. What is the importance of the Kalimbeza Rice Project to the poor?

11. Has the Kalimbeza Rice Project spurred overall economic growth?

12. To what extent has the Kalimbeza Rice Project improved food security?

13. Which are the major markets of the rice produced on the Kalimbeza Rice Project?

14. Have communities benefited from the smallholder-rice farming programme?

15. What mechanisms are there to help smallholder rice farmers to become successful?

16. What natural resources management practices have been put in place since the introduction of the Kalimbeza Rice Project?

17. What mechanisms are in place to mitigate the impacts of climate change on the productivity of the Kalimbeza Rice Project?

18. How favourable are the working conditions (*e.g. exposure to toxic pesticides and dangerous equipment*) at the Kalimbeza Rice Farm?

Excellent [] Good [] Fair [] Poor []

Elaborate on your choice:

19. Has the Kalimbeza Rice Project been a success?

Yes [] No []

Elaborate on your choice:

20. What improvements should be made to the Kalimbeza Rice Project to maximize its socio-economic impacts?

APPENDIX 2**RESEARCH QUESTIONNAIRE****Introduction**

My name is Joseph Kamwi Subasubani, an MPA Student at the University of Stellenbosch. The reason for my visit to the Kalimbeza Area is to conduct an evaluation of the Green Scheme Programme: A Case of the Kalimbeza Rice Project. The purpose of this research is for academic purposes only and I will not use this Research for any commercial gain. The aim of the research is to evaluate the socio-economic outcomes i.e. employment, food security, intended and unintended outcomes, of the Kalimbeza Rice Projects on the lives of the surrounding communities. Below are a few questions. These questionnaires shall be destroyed to keep participant confidentiality six months after Graduation.

Research Administration Section

Village _____

Education _____

Employment _____

Gender: _____

Age Group: 18-28 Years [] 29-39 Years [] 40-49 Years [] 50-59 Years [] 60
Years and above []

Section A: Quality of life

1. Can you give details how your quality of life has changed since the introduction of the Kalimbeza Rice Project?

2. Has there been an improvement of medical services since the introduction of the Kalimbeza Rice Project?

3. Has the introduction of the Kalimbeza Rice Project improved the level of education in your area?

4. What types of public services have come to your area as the result of the Kalimbeza Rice Project? (Tick)

- Electricity []
- Water []
- Roads []
- Communication []

➤ Others

(Specify) _____

–

5. Has the introduction of the Kalimbeza Rice Project increased the availability of consumer goods?

6. In what ways have the natural environment been impacted by operations at the Kalimbeza Rice Project?

Section B: Employment

1. What types of jobs of opportunities are available in the Kalimbeza area?

2. What agricultural activities are you involved in?

3. Has working at the Kalimbeza Rice Project successfully reduced poverty?

4. What infrastructure has been provided since the introduction of the Kalimbeza Rice Project?

Section C: The Kalimbeza Rice Project

1. What do you currently know about the Kalimbeza Rice Project?

2. How often do you eat rice? (Choose the most appropriate choice)

Daily [] Weekly [] Monthly [] only on special occasions []

3. Where exactly do you buy the Kalimbeza Rice from?

4. Has the Kalimbeza Rice Project improved your food security throughout the year?

5. Have your dietary patterns changed since the introduction of the Kalimbeza Rice Project?

6. What do you think should be done to make the Kalimbeza Rice Project Namibia's biggest rice producer'?

Section D: Gender

1. How many women do you think are currently employed at the Kalimbeza Rice Project?

2. Are there equal employment opportunities for both men and women at the Kalimbeza Rice Project?

3. Are there women in leadership positions at the Kalimbeza Rice Project?

4. How has the employment of women on the Kalimbeza Rice Project changed the domestic responsibilities of both men and women?

Section E: Benefits

1. What benefits did you expect from the Kalimbeza Rice Project?

2. How has your community at large benefited from the introduction of the Kalimbeza Rice Project?

Section F: Weaknesses

1. What have been the major challenges that have slowed production at the Kalimbeza Rice Project?

2. What have been the major failures of the Kalimbeza Rice Project in uplifting the living standards of your community?

3. What are the environmental impacts of the Kalimbeza Rice Project?

Section G: Opportunities

1. What do you think should be done in order for the Kalimbeza Rice Project to increase rice production?

2. In your opinion, what should the Kalimbeza Rice Project Management do to create more employment?

3. How can gender equality be encouraged at the Kalimbeza Rice Project?

4. How can the Kalimbeza Rice Project avoid damaging the natural environment?

5. What else can be done in order to make the Kalimbeza Rice Project improve the lives of your community?

APPENDIX 3**LIST OF RESPONDENTS****Questionnaire**

| Village | Male | Female | Employed | Unemployed |
|------------------|-------------|---------------|-----------------|-------------------|
| | | | | |
| Kalimbeza | 10 | 15 | 9 | 16 |
| Isize | 14 | 11 | 4 | 21 |
| Kalundu | 7 | 18 | 6 | 19 |
| Sifuha | 8 | 17 | 3 | 22 |
| | | | | |
| TOTAL | 39 | 61 | 22 | 78 |

Interviews

| Name | Age | Gender | Department | Position | Education |
|---------------|-------------|---------------|-----------------------------|---|------------------|
| Hon. R. Mbala | 65 Years | Male | Zambezi Regional Council | Council Chairperson | Post Grad |
| P. Kompeli | 46 Years | Male | Min. of Agriculture | Chief Agriculture Tech | Diploma |
| C. Mubita | 39 Years | Male | Zambezi Regional Council | Deputy Director: Planning and Development | Post Grad |

APPENDIX 4

RESEARCH PHOTOS

Below are the field photos that the researcher was able to select.



The photograph above shows a road signboard that directs visitors to the Kalimbeza Rice Project.



The entrance to the Kalimbeza Rice Project offices



The communication tower situated at Isize village in the Kalimbeza area



Two pictures showing the road infrastructure



Modern housing that will house the permanent staff of the Kalimbeza, with clean water and electricity.