

### SUPERVISOR CERTIFICATION

The undersigned certifies that he has read and hereby recommends for acceptance by open University of Tanzania, a dissertation entitled “ **The Effectiveness of Warehouse Receipt System on Improving Smallholder Cashewnut Income in Tanzania:Case study of Tandahimba District**” a partial fulfillment of the requirement for the masters degree in Business Administration from Open University of Tanzania.

.....  
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.....  
Date

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**DECLARATION**

I TITUS SIZYA declare that, this dissertation is my own original work, and that it has not been submitted for a similar degree in any other University.

.....

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.....

Date

**DEDICATION**

I would like to dedicate this dissertation to my Mother who gave me Support, Moral advice through out my studies.

## **ABSTRACT**

Tanzania introduced the Warehouse receipt system in coffee and cotton and later on in cashew in 2007 after the introduction of Warehouse Receipt Act number 10 of 2005 and its regulation of 2006. The introduction of Warehouse receipt system is part of the implementation of National Strategy for Growth and Reduction of Poverty (NSGRP), focuses on improving the livelihood of the people living in cashew producing Districts, For instance, over 95 percent of people in Tandahimba District depend on cashewnuts for their living. Despite of the fact that the Warehouse receipt system its aim is to assist smallholder cashewnut farmers to improve their income, but the study shows that the relationship between Warehouse receipt system and Income of smallholder cashewnut farmers is weak, this questions the effectiveness of the Warehouse receipt system which is the main objective of this study. The study used descriptive survey combining both qualitative and quantitative methods employed documentary review, semi-structured questionnaires, key informants interviews and focus group discussion in the area of study that is wards of Mahuta, Nahnyanga and Kitama.

The study revealed that despite of the fact that the introduction of Warehouse Receipt system in cashewnut increased the price of cashew per kilogram from the average of Tshs 800/= to 1200/= for cashewnut seasons 2010/2011 and 2011/2012 but the income of smallholder farmers remained domant which is the parameter measure of inefficiency and ineffectiveness of the warehouse receipt system in Tandahimba District.

The study suggested that effectiveness of warehouse receipt system can be improved by putting in place rules and regulations which will minimize the cost of running the warehouse receipt system in favor of improving the income of smallholder farmers.

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**ABBREVIATIONS**

AMCOS	Agricultural and Marketing Cooperative Society
ANC	African National Congress
BC	Before Christ
CBT	Cashewnut Board of Tanzania
CMA	Collateral Management Agreement
DALDO	District Agricultural and Livestock Development Officer
DED	District Executives Director
EAGC	Eastern Africa Grain Council
EBRD	European Bank for Reconstruction and Development
e-WRS	Electronic Warehouse receipt system
GDP	Gross Domestic Product
HDI	Human Development Index
KACE	Kenya Agricultural Commodity Exchange
MPEWATA	Mfuko wa Pembejeo Wilaya ya Tandahimba
NCPB	National Cereals and produce Board
NMB	National Microfinance Bank
NSGRP	National Strategy for Growth and Reduction of Poverty
NRI	National Resource Institute
PHDR	Poverty and Human Development Report
PIH	Permanent Income Hypothesis
SACCOS	Saving and Credit cooperative Societies
SAFEX	Southern African Futures Exchanges
TANECU	Tandahimba and Newala Cooperative Union
UNDP	United Nations Development Programme
URT	United Republic of Tanzania

UWAKOTA	Umoja wa Wakulima wa Korosho Tandahimba
WR	Warehouse Receipt
WRS	Warehouse Receipt System
ZACA	Zambia Agricultural Commodities Agency
ZAMACE	Zambia Agricultural Commodity Exchange
PRSP	Poverty Reduction Strategy Paper
RDP	Rural Development Policy
ASDS	Agricultural Sector Development Strategy
ASDP	Agricultural Sector Development Programme



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## CHAPTER ONE

### 1.0 INTRODUCTION

#### 1.1 Background to the Problem

Agriculture is the most important source of income of many people especially in developing countries. Governments of these countries have been formulating policies to improve agriculture and thereby improving incomes of smallholder farmers. This includes the introduction of warehouse receipt system to boost farmer's income. For the purpose of this study income is defined as the consumption and savings opportunity gained by an entity within a specified time frame, which is generally expressed in monetary terms, however for households and individuals income is the sum of all wages, salaries, profits, interests, rent and other forms of earnings received in a given period of time.(Budd, 2001)

However, the relationship between warehouse receipt system and outcomes is weak (Thiodos and Facet, 2007). This questions the effectiveness of the warehouse receipt system. Effectiveness is a measure of the extent to which an activity achieves its goals (Cipryk, 2010), such as income generation and increasing production.

To rescue cash crops from price fluctuations, Tanzania introduced the warehouse receipt system in coffee and cotton and later on in cashew nuts in 2005 and 2007 respectively. The warehouse receipt system, as part of the implementation of the National Strategy for Growth and Reduction of Poverty (NSGRP), focuses on improving the livelihood of the people living in cash crop producing districts. For instance, over 95 percent of the people in Tandahimba District depend on cashew nuts for their livelihood. The NSGRP demonstrates Government's commitment to human development as the highest national priority.

On the contrary, in spite of the efforts by the Government, 33 and 18 percents of people in Tanzania live below basic needs and below food poverty line, respectively (United

Republic of Tanzania-URT, 2011). The 2011 Poverty and Human Development Report (PHDR) showed that Tanzania was behind the world average in Human Development Index (HDI) (United Nations Development Programme-UNDP, 2011). The HDI is a composite index measuring average achievement in health, knowledge and living standard (ibid).

The study therefore intends to investigate the performance of the warehouse receipt system in improving farmer's cashew nuts income in Tanzania.

## **1.2 Statement of the Research Problem**

The goal of introducing warehouse receipt system in the cashew nuts marketing system was to improve, among other things, the smallholder cashew nut income. Never the less, the relationship between warehouse receipt system and income of small holder farmers is reported as weak (Thiodos and Facet, 2007). Moreover, little is known about the effectiveness of this system in improving farmer's income in Tanzania. There is less evaluative material on the subject (Onumahet *al*, 2008).

The demand of Warehouse receipt system stem from difficulties encountered by smallholder farmers in marketing their cashew and obtain a maximum profit within the Warehouse receipt system as it aimed and access to financial services through banks with little constraints.

Moreover, smallholder farmers may lack informations about the Warehouse receipt system on how it operates including pricing of their cashew which may be coupled with household cash constraints.

This may perhaps compelled them to sell their produce to middlemen at throw away prices to meet the basic household needs and sustain other obligations such as paying school fees for their children. Further more, farmers could be experiencing difficulties in accessing



better markets example selling directly to larger traders or processors and might have limited ability to handle cashew after harvest, partly due to the above the challenges smallholder farmers risk incurring massive income shortage likely food insecurity problems in the District.

Warehouse receipt system is a growing trend towards development of innovative approaches aimed to reduce skepticism and enhance efficiency in buying and selling of cashew, The initiatives lack legal and institutional framework to guarantee performance and minimize transactional costs. Warehouse receipt system is perceived to facilitate credit for inventory or cashew held in storage, these receipts sometimes known as warrants, when backed by legal provisions that guarantee quality, provide a secure system whereby stored cashew can serve as collateral, be sold, traded or used for delivery against financial instruments including futures contracts.

These receipts are documents that state the ownership of a specific quality of cashew with specific characteristics and stored in a specific warehouse, Little is known about the quality of cashew stated in these documents since there is no proper instruments to identify the quality of cashew sold in the warehouses as a result cashew are sold at the same price regardless of their quality.

On the other hand, lack of finance or appropriate packaged financial services pose great challenges to smallholder cashew farmers in Tandahimba. It may make it difficult for farmers to procure inputs needs to increase cashew productivity.

This partly compel smallholder farmers to sell cashew at very low prices outside the warehouse receipt system rather than waiting to benefit from rise in price after the warehouses opened which often occurs few Months after harvest. Likewise, smallholder farmers lack access to insurance instruments which can be used to manage risks to which might make smallholder farmers more vulnerable to vagaries of weather.

This study defined strategies that foster better access to secure Warehouse receipt system constraints in improving income of smallholder cashew farmers in Tandahimba.

### **1.3 Objectives of the study**

#### **1.3.1 General Objective**

The general objective of the study is to assess the effectiveness of the warehouse receipt market system in terms of smallholder cashew nuts income improvement in Tanzania specifically Tandahimba District.

#### **1.3.2 Specific Objectives**

- 1) To assess whether warehouse receipt system improves farmer's income.
- 2) To assess the participation of a farmers in the warehouse receipt system.
- 3) To determine the influence of socio-demographic status on warehouse receipt system compliance.
- 4) To identify the capacity needs of smallholder farmers to engage in warehouse receipt system

### **1.4 Research Questions**

- 1) Does the warehouse receipt system improve smallholder cashew nut income?
- 2) How do farmers participate in the warehouse receipt system?
- 3) Does the socio-demographic status of a famer influence his/her compliance with warehouse receipt system?
- 4) Does warehouse receipt system its capacity needed by smallholder farmers?

### **1.5 Significance of the study**

In Tanzania warehouse receipt system started in 2005 after introduction of warehouse receipt Act passed by the parliament and Establishment of Tanzania warehouse receipt licencing Board in 2006. The introduction of warehouse receipt system forms the basis for the creation of a spot or cash market. Transactions involves the delivery of goods on future date, It enhance number of limitations which involves institutional and structural

shortcomings as a result inefficiency of the warehouse receipt system which brings smallholder farmers income to frutate timely. The study may uproot the shortcomings of all corners of the system and bring up critical suggestions to improve the system and work efficiently and effectively to assist smallholder farmers.

### **1.6 Scope of the study**

Failure of the warehouse receipt system to work efficiently and effectively aimly to improve the income of smallholder cashewnut farmers inspire the study to be done, The study analysed the reason why farmers in the District point out their fingers to the warehouse receipt system as the source of their poverty and bring out critical suggestions to improve market system of cashew to improve the income of smallholder farmers, hence the study acts as the open end of the problems facing market system of cashew.

The study got some obstacles in getting informations from various sources, From questionnaires number of smallholder farmers are illiterates hence filling questionnaires was difficult, the problem solved by increasing sample size to fulfill the desired data. Political ideologies among people in the District concerning the system in one way or the other obscured the study in getting informations from the primary societies leaders, But during the collection of data the researcher educated primary societies leaders to participate full in the study by giving the benefits at the end of the study.

### **1.7 Organization of the Study**

The study comprises of five chapters, each chapter has its components and compositions aimly to understand the research done.

Chapter one introduced the background of the warehouse receipt which answer the 5W's which, who, where, when, what and finally how the warehouse receipt system operated.

The chapter embark and explain statement of the research problem, objectives of the study and research Questions. Chapter two emphasis Literature review, which divided into two parts the theoretical and empirical literature review. Theoretical literature review explained different theories relating to the study topic and empirical review explain different studies done concerning warehouse receipts, study instruments and results obtained. Chapter three describe research design, area of the study, population of the study, sampling and sample size, data collection methods, data collection tools/instrument, reliability and validity of the collected data, data analysis technique and lastly the chapter describe the Expected results. Chapter four discusses the results obtained in various methods such as pie chart, tables and descriptive text. Chapter five give out the conclusion and critically suggests the solutions to curb the analysed findings of the study.

## **CHAPTER TWO**

### **2.0 LITERATURE REVIEW**

#### **2.1 Introduction**

The chapter consider the critical points of current knowledge including substantive findings as well as theoretical and methodology contributions to the warehouse receipt system on improving smallholder cashewnut income in Tanzania. Since literature reviews are secondary sources(Galvan, 2009), The chapter does not report any original experimental work but instead it report an interpreted review of an abstract accomplishment. The main goals of the chapter is to situate the current study within the body of literature and provide context knowledge of the warehouse receipt system its efficiency and effectiveness.

#### **2.2 Conceptual Definitions**

##### **2.2.1 Warehouse Receipt**

Warehouse receipts (WR) are documents issued by warehouse operators as evidence that specified commodities of stated quality and quantity, have been deposited at particular locations by named depositors. The depositor may be a producer, farmer group, trader, exporter, processor or indeed any individual or body corporate.(Baker, 2006)

Hollinger et al, 2009 explained the operation of Warehouse which follows the sequential order as the warehouse operator holds the stored commodity by way of safe custody; Implying he is legally liable to make good any value lost through theft or damage by fire and other catastrophes but has no legal or beneficial interest in it. The receipts may be transferable, allowing transfer to a new holder-a lender (where the stored commodity is pledged as security for a loan or trade counter-party which entitled the holder to take delivery of the commodity upon presentation of warehouse receipt at the ware house.

Traditionally warehousing involves the storage of material a work in process inventory or finished goods in a covered space in the most suitable way for specific time period. It is

scientific facilities for storage of commodities generally combined with the element of trade and profit . Licensed warehouse is required to obtain weigher, grader and simpler licenses as well from the licensing authority, which satisfies itself about the storage worthiness of the structure to be licensed before the grant of the license. A licensed warehouse issues a receipt for the goods deposited in the prescribed form called a warehouse Receipt, which may be marked negotiable or non-negotiable (Baker et al., 2006)

The system involve the issuing of documents, warehouse receipts (WR) as evidence that specified commodities of stated quantity and quality have been deposited at particular location by a named depositor. Depositor may be a producer, farmer group, a trader, an exporter, a processor or indeed any individual or corporate body. The issuer of the warehouse receipt holds the stored commodity by way of safe custody; implying that the issuer is legally liable to make good any value lost through theft or damage by fire and other catastrophes but has no legal or beneficial interest in the commodity(Coulter et al., 1992). In case of liquidation, creditors of the issuer will not be able to seek resource to the commodities stored since legal title remains with the depositor or bonafide holder of the warehouse receipt.

Warehouse receipt system legalizes the process of recapturing dead-capital by establishing a mechanism whereby agriculture commodities cashew nut inclusive can be used as collateral for credit obtained from a lender through negotiation of legally recognized warehouse receipts.

### **2.2.2 Effectiveness of Warehouse receipt System**

Effectiveness is the degrees to which objectives are achieved and the extent to which targeted problems are solved (Baker, 2006).

Effectiveness is all about assessing the results versus expectations, Using a pre-execution method of measuring achievements against stated milestones, objectives and goals. This

includes determining reasons why achievements fell short or why it took so long. Measure can be cause-and-effect relationships to evaluate the worth of a particular policy or a set of policies in producing some wanted outcome known as summative evaluation (Coulter et al., 2001).

The effective warehouse system is that which is reliable, easy to use, communicable between stakeholders and importantly, it should fit and cut the desired objectives in our case to increase the income of smallholder farmers (Budd, 2001).

### **2.2.3 Smallholder Cashewnut Farmers**

Small-holding are farms supporting a single family with a mixture of cash crops and subsistence family (Akiyama, 2001). As a Country becomes more affluent and farming practices become more efficient. Smallholdings may persist as legacy of historical land ownership practices. In more affluent societies smallholdings may be valued primarily for the rural lifestyle that they provide their contribution to household food Security and poverty alleviation is thus dis-proportionately high and increasing as the National population increases so does the number of small-holdings (Akiyama, 2001).

### **2.2.4 Warehouse Receipt System**

The system involves the issuing of documents, warehouse receipts (WR), as evidence that specified commodities of stated quality and quantity have been deposited at a particular location by a named depositor(s). Depositors may be a producer, a farmer group, a trader, an exporter, a processor or indeed any individual or corporate body. The issuer of the warehouse receipt holds the stored commodity by way of safe custody, implying that the issuer is legally liable to make good any value lost through theft or damage by fire and other catastrophes, but has no legal or beneficial interest in the commodity. In case of liquidation, creditors of the issuer will not be able to seek resource to the commodities stored since legal title remains with the depositor or bonafide holder of the warehouse

receipt. The only exception is the warehouse operators lien covering outstanding storage cost.

The generic warehouse receipt model being promoted by the NRI consortium works sequentially:- The depositor deposits their commodities (Cashew)-which meet defined quality standards at designated warehouse, Then the designated warehouse have to meet prescribed physical standards, there after the warehouse operators issue transferable warehouse receipts stating the commodity, quantity and quality of commodity deposited, the warehouse operator guarantees delivery of the commodity described on the warehouse receipt and liable for any losses incurred, the warehouse receipt issued is transferable, which means it may be transferred to a new holder-a lender (Where the stored commodity is pledged as security for a loan) or to a trade counter-party (by which the buyer is entitled to take delivery of the commodity upon presentation of the warehouse receipt at warehouse), Hence if the depositor requires short-term financing, he/she can obtain an advance representing a percentage of the prevailing market value of the commodity from a bank, using the warehoused crop as collateral, depositor can wait until such time when market conditions are conducive to sell the warehoused commodity (Cashew), Where the depositor borrowed using the warehoused commodity as collateral, it will be required that payment for the commodity is channeled through the financing bank.

The bank in turn deducts the loan advanced at any accrued interest and other charges before crediting the account of the depositor with the balance, a depositor who has not borrowed against the stocks will be entitled to full proceeds from the sale, A depositor has to pay storage, and where applicable collateral management fees, a depositor is also responsible for the cost of transporting the commodity to designated warehouse.



## **2.3 Theoretical Literature Review**

### **2.3.1 Decentralisation Theory**

This study employs the decentralization theory as a guiding tool for the analysis of the effectiveness of the warehouse receipt system on improving smallholder cashew nut income.

The decentralization theory suggests that local decision makers have more information on local needs and conditions as compared to central dictates (Ribot, 2002). Theories tell us that decentralization can lead to a number of positive outcomes (Schults and Yaghmour, 2004). Some of these positive outcomes include democratization and participation, rural development, public service performance and poverty alleviation. Most of the local benefits from decentralization are believed to come from increased popular participation, which in turn leads to increase in democracy, efficiency and equity (Agrawal and Ribot, 1997 and Ribot, 2002). Like decentralization advocates, natural resources theorists and practitioners also emphasize the need for local participation as a means for increasing management effectiveness and equity (Schults and Yaghmour, 2004 p. 207).

Schults and Yaghmour (2004) defined decentralization as a transfer of authority and responsibility for public functions from the central government to subordinate or quasi-independent government organizations and or the private sector as a complex multifaceted concept. There are different types of decentralization like political and administration (Ribot, 2002). But in our study administrative decentralization is highly important since it seeks to redistribute authority, responsibility and financial resources for providing public services among different levels of government (Ntsebeza, 2004). It is the transfer of responsibility for planning, financing and management of certain public functions from the central government which introduce the warehouse receipt and its agencies like warehouse body to field units of government agencies, subordinates units or levels of government,

semi-autonomous public authorities or corporations or area-wide regional or functional authorities like cooperative societies.

The three major forms of administrative decentralization are deconcentration, delegation and devolution (Larson, 2004). In our study delegation plays a major role in warehouse receipt system which in one way or another seems to devolve the all system of warehouse receipt system since through delegation central governments transfer responsibility for decision-making and administration of public functions to semi-autonomous organizations not wholly controlled by the central government, but ultimately accountable to it. Government delegates responsibilities when they create a system of cooperative societies which are under local government authorities even though there is Warehouse Receipt Act but all responsibilities and activities concerning the Act are assumed to be on the hands of warehouse board, warehouse operators and cooperative societies, usually these organizations have a great deal of discretion in decision-making. They may exempt from constraints on regular civil services personnel and may be able to charge users directly for services.

### **2.3.2 Chester Barnard Theory**

The study also employs the Chester Barnard theory as a guiding tool for the analysis of effectiveness of warehouse receipt system. The Chester Barnard Theory formulate two theories, one of Authority and the other of incentives both seen in the context of communication system.

In the warehouse receipt system the communication network between holders are poor (Ferris et al, 2010)The holder in warehouse receipt system are farmers, depositors, farmers associations and lender (banks). Barnard discussed that for the system which is organized based on rules and definite, every one should know the channels of communication, every one should have access to the formal channels of communication, Lines of communication should be short and as direct as possible, competence of person serving as communication

centers should be adequate and the line of communication should be interrupted when the system is functioning and lastly every communication should be authenticated.

The theory tells us that proper communication in operating system can lead to a number of positive outcomes, some of these outcomes include efficiency, openness, chaos reduction which brings out income generating activities as a result poverty alleviation for those who operate the system.

### **2.3.3 Linear Stages of Growth Model**

The linear stages of growth model is an economic model which is heavily inspired by the Mashall plan which was used to revitalize Europeans economy after World war II, it assumes that economic growth can only be achieved by industrialization. Growth can be restricted by local institutions and social attitudes especially if these aspects influence the savings rate and investment.

Introduction of warehouse receipt system aimed to assists farmers in balancing the buying price of their products during harvesting season when the supply of the products is higher (Onumah, 2003), in doing so the farmer obtain the maximum output from their products which enhance saving and investment from the obtained income(Jayne and Argin, 2009 p 345). Linear stages of growth Model explain that the Constraints impeding economic growth are those found within the society.

The Rostow's stages of growth Model is the most well known example of the Linear stages of growth Model, it identify stages through which developing Countries had to pass to reach an advanced economy status; Traditional society, preconditions for take-off, take off, drive to maturity and age of high mass consumption. Warehouse receipt system is still in stage of tradition society as far as Rostow's stages of growth Model is concerned, mostly buying and selling of crops from farmers are governed by local primary societies within their areas(Coulter, 2009), hence to reach stage of high mass consumption in Rostow's hierac

is where the effectiveness of warehouse receipt system measure is maximum level by improving income of smallholder farmers, since the Model measure development solely by means of the increase of GDP per capital.

#### **2.3.4 Permanent Income Hypothesis**

The permanent income hypothesis (PIH) is a theory of consumption that developed by the American economist Milton Friedman. In its simplest form the hypothesis states that the choices made by consumers regarding their consumption patterns are largely determined by a change in permanent income, rather than change in temporary income. The transitory, temporary changes in income have little effect on consumer spending behavior, whereas permanent changes can have large effects on consumer spending behavior.

Warehouse receipt system recipients which include farmers, depositors, primary societies, secondary societies and lenders are consumers of the products involved in the system (Barr, 2004), since the hypothesis measure income and consumption, it contains a permanent anticipated and planned element and a transitory wind fall gain/unexpected element.

The theory discusses that individual will consume a constant proportion of his/her permanent income and that income earners have a higher propensity to consume, a high income earners have a higher transitory element of their income and lower than the average propensity to consume. In warehouse Receipt System farmer's payments are in parts, the first, second and lastly bonus payment after their products cashew been sold by auction, the first payments paid immediately after the farmer sent products to the warehouse, this is considered as transitory income since it pays necessary expenses occur during the production process, hence it is real wealth of the farmer.

In Friedman's permanent income hypothesis Model, the key determinant of consumption is individual's real wealth, not his current real disposable income. Permanent income is determined by consumer's assets; both physical (shares, bond, property) and human education and experience, these influence the consumer's ability to earn income. The choice made by cashew farmers who are producers and ultimately consumers of other products depending on the income generated in the production regarding their production patterns are determined not by their present term capital cost but their long term capital cost expectations (K and Fair, 2007 p.274). The theory point out that transitory, short term changes in capital cost have little effect on production behavior.

### **2.3.5 Utilitarianism Theory**

The theory was founded by Jeremy Benthan and John Stuart Millabd Centers around two core principles; Utility and the diminishing Marginal Utility, Utility refers in Principle to the level of happiness or satisfaction that a person has from his or her situation (Oakley, 2001). To Utilitarianism theorists, the purpose of government is to Maximize the sum of utility not just for a particular class of people but for every one in society. Diminishing Marginal utility is the Utilitarianism case for income re-distribution. This principles states that as a person's income raises, extra 'utility' from every new dollar of income falls. Thus an extra amount of income to a poor person has more utility value to that of a rich person. Thus by re-distributing income due to presence of effective warehouse receipt system in cashewnut market system may be taking utility from the rich and giving it the poor but that utility being gained by the poor is worth more than what is being lost by the rich (Mankiw et al, 1999).In many ways, re-distribution in utilitarianism sense is a founding principle of social welfare policy, this is because utilitarianism wants to rid individuals of painful conditions and thus raise individual utility, these painful conditions can be both physical in terms of distress such as poverty mal-nutrition and poor medical care to the psychological

effects that these distresses can have on the individual, thus the goal of utilitarianism is to undertake policies that will maximize the sum of utility in every one in the society (Furniss and Tilton, 2005 p 176).

Utility of smallholder farmers will depend on improving their income through proper institutionalized system of their products, here cashewnut farmers will increase their utility due to the presence of effective warehouse receipt system which will enhance re-distribution of income among the economic boundaries.

According to libertarianism thought, society itself earns no income but it is the individual within the society who earn income, thus a libertarian would advocate minimal government intervention in the realm of income re-distribution, there is much evidence to suggest that income inequality actually hurts efficiently in a region, the higher the inequality, the smaller the amount of people who are able to secure loans and other sources of credit which hurts investment opportunities (Furniss and Tilton, 2005), as well inequality can lead to an insufficient allocation of human assets such as an overemphasis of higher education at the expenses of universal primary and secondary education rates (Todaro, 2003) of course inequality does'nt only lead to economic inefficiency but as Myrdal points out it can lead to institutional and democratic insufficiencies as well because the higher the inequalities the easier it is for rich, powerful elite to emerge and coerce the weaker factions of society (Furniss and Tilton, 2005). Thus while there are arguments for and against the notion that income inequalities lead to inefficiency, the evidence suggests that inequality actually hinders efficiency in many ways.

Economic activities of people in Mtwara regions, Tandahimba among the district found within depends on cashewnut farming. Failure of setting the proper market system which will improve the income of the people in the District will hinder their involvement in other

economic activities due to the fact that there are other people and Companies which use the weaknesses present in the warehouse receipt system to buy cashew from farmers at lower prices hence bring higher income inequalities among the people in the District, as a result inefficiency in economic phenomena.

Lowering these inequalities by impeding effective warehouse receipt system will give the smallholder cashewnut farmers a greater chance to re-invest in society and take part in their own development especially promoting education, training and the opportunity to invest capital in small scale enterprise. The intervention of the government to employ the warehouse receipt system may assist smallholder cashewnut farmers but Fredrick Heyek believing that markets and markets alone should make economic decisions interventionist liberals such as John Maynard Keynes who believes that it is necessary for governments to intervene in spheres that were not adequately addressed by the markets.

### **2.3.6 Net growth Theory**

Net growth theory brought with it a change of thinking from looking at development in simple economic terms to look at the future of specific regions all together. Net growth theory looks at the concepts of poverty alleviation, which emphasized by increase the income generating activities within the society (Cohn, 2003).

Development that is not just successful in short term but also is sustainable in the long term and the effectiveness and accountability of aid provision. The theory keeps the market reforms of other development theories and practices but adds seven points of focus when looking at development. These points are strong focus on poverty, focus on both the sustainability of development and sustainability of the environment. Important role for the state in development is to ensure the growth and development of human capital including education and health care, state intervention in the provision of infrastructure, strengthening

Institution, participatory approach to development policies and project implementation and efficiency of aid (Todaro, 2003)

Warehouse receipt system is an institution since it has various bodies, rules and regulations to run hence strengthening of the system will ensure the growth and development of smallholder cashewnut farmer in terms of capital and efficiency aid which is the measure of development in a specific region.

### **2.3.7 Capacity Building and Empowerment Theory**

Yash Tandon states in her article entitled poverty, processes of impoverishment and Empowerment ‘What is new about poverty in our times is the stark contrast between the rich and the poor and the sheer number involved’. The school of thought tend to have a top-down approach to development and to empower the people (Tandon, 1995). Empowering the people in development is critical as it yields power in the local citizens by increasing the confidence in one’s ability of the individual to access resources and credit to be able to participate in a more bottom up style of development. In the development realm this is really what empowerment can achieve, it allows for participation of individuals and capacity building of Local communities (Oakley, 2001)

Capacity building thus is a means to enhance the ability of people and institutions to improve their economic skills and abilities to manage projects, define their wants and needs and allow them to achieve sustainable livelihoods (Cohn, 2003). Since capacity building is an investment in people, institutions and practices that will, together enable countries, regions and communities to achieve their objectives sustainability (World bank, 1997) hence effective warehouse receipt system will empower smallholder farmers to enhance the ability and institutions to improve their economic skills and abilities to manage projects, define their wants and needs and allow them to achieve sustainable livelihood. Ineffective warehouse receipt system brings less money to smallholder cashewnut farmers to consume



goods, a reduction in production from this loss of demand and lack of investment. Changing the market system of cashew by the government could implement policies then in turn to increase demand, production and even investment as well enhancing smallholder farmers to invest in public projects such as school, health hence stimulate the economy.

## **2.4 Empirical Literature Review**

### **2.4.1 Empirical review in the World**

Past studies revealed that warehouse receipts have been used since 2400 BC during Mesopotamian civilization. WRS has been undergoing transformation and the systems vary from country to country (Ferris et al, 2010). The variations include storage at a farm level, communal grain bulking, manual warehousing, electronic warehouse receipting to futures market such as commodity exchange (Fowler, 2008)

In the 18<sup>th</sup> century in United States of America, entrepreneurs built steam powered elevator, multi- storey buildings to receive farmers and other suppliers grain and store in bulk, prior to sale and onward shipment and issued tradable warehouse receipts against the stock (Onumah et al, 2003), this enable the balance between demand and supply of the produce hence making the price of commodities to be in proper position for farmers, but it doesn't put in place the efficiency of the system to improve farmer's income.

In Latin America, similar needs emerged in the 19<sup>th</sup> Century in Argentina and Brazil's agro-exporting economies, the system follows civil Law Countries of passing General Warehousing Acts regulated by Ministries of Trade or banking authorities. The Acts provided for lincensing of General Warehousing Companies to store all sort of commodities (Agricultural and non-Agricultural) and issue depositors with warehouse receipts, in two parts, one title document and the other a pledge certificate which the depositor can use to raise financing (Munro, 2010),

The writer prove that even through banks involved in the system as warehouse operators and depositors but still the efficiency and effectiveness of warehouse receipt system to assist farmers to increase profits with regard to capital engaged in production remained in paradox.

In Colombia, banks are the main owners of the warehouse, each bank/Company has its own warehouse and silos ownership by wealthy banks has prevented warehouse failure and has reassured depositors that they would be protected from fraud (Coulteral, 2009).

In the situation where banks have their own warehouses brings monopoly system of market as a result they become price setter, there is no competition among buyer as a result the income of smallholder farmer's remained stagnant due to inefficiency of warehouse system operations.

In Eastern Europe and former Soviet Union, have special Warehouse receipt laws for grains rather than broad legislation encompassing various commodities and different commercial practices. Fowler, (2008) explains that; the Hungarian system consists of three very large and well capitalized warehousing companies carrying out a lot of field warehousing. Many Countries in the World have established well-structured and efficient government regulatory agencies and indemnity funds.

The study shows that putting in place rules, laws and regulation is necessary in operating the warehouse receipt system, since the system should be controlled, there must be a central point in its operations but is not sufficient condition to fulfill the needs of smallholder farmer's to improve their income. Likely setting of laws and regulation in operation of warehouse receipt brings a number of agency which it needs funds for its performance, with the reason that the system works as a single circle it must have its center of income which is farmer's who are producer as a result the generated income is evenly distributed in number of outsource, since the end of 80's in Eastern Europe and former soviet union, a variety of

approaches have been used to collateralize stock for lending purposes, including bank surveillance using soviet era documentation, employment of collateral managers, field warehousing and regulated systems (Baker, 2006). There has been considerable outside support for development of warehouse receipt system from the European bank for Reconstruction and development (EBRD), USAID, CFC and others, much of it to establish licensing regimes along North American lines.

A recent FAO report (Hollinger et al, 2009) shows that in twelve countries which have sought to develop warehouse receipt system, the system is most fully developed in three:- Hungary, Bulgaria and Kazakhstan, all of these countries have special warehouse receipt laws for grains rather than broad legislation encompassing various commodities and different commercial practices.

The Hungarian system consists of three very large and well capitalized warehouse receipt companies carrying out a lot of field warehousing. Bulgaria and Kazakhstan are closer to American practice, both of these Countries have established well-structured and efficient government regulatory agencies and indemnity funds where implementation has failed or only been partial, this is attributed to missing initial consensus among government institutions, donors and private sector about the key priorities and essential components(Bouquet, 2009).

Belmont, 2007 explained that in India, sophisticated agricultural markets, including thriving futures markets once flourished, however, government interventions in setting and maintaining domestic prices have displaced the economic viability of many storage schemes and limited the demand for inventory-based credit but the situation failed to improve the income of smallholder farmers.

### **2.4.2 Empirical review in Africa**

In Mali, credit systems were established in 1997, based partly on inventory receipts, however a number of government-imposed conditions and delays render the system ineffective (Edwards, 2010). Observations showed that government intervention in warehouse receipt system has enormous importance in setting out prices of the products, but in free market economy prices depends on the supply and demand basis. In warehouse receipt system even though the government's hands should be stretched but private sectors are needed to improve the effectiveness of the system as a result to improve smallholder's income.

In South Africa's grain production is dominated by large-scale commercial farmers, who until the early 90s received state support within the framework of a state-controlled marketing system(Feris, et al, 2010). South Africa has no warehouse receipt Act (the Act of 1930 was rescinded during the apartheid era). The new ANC Government liberalized the trade in grains and abolished commodity boards, but at the same time encouraged the private sector to develop alternative institutional structure to support the trade. A range of needs had to be addressed including market information, systems for resolving trade disputes, systems of trade financing, grain pricing and the management of price risks. These needs were addressed through various institutional devices, starting with the upgrading of the information service (SAGIS), the issue silo certificates (SCs) and the establishment of future and options contracts for white and yellow maize, wheat, soybean and sunflower on the south African futures Exchange (SAFEX)-Which later become part of Johannesburg stock Exchange (Onumah, et al, 2003)

In Zambia Collateral management Agreements (CMAs) has been in existence in for years(Edward, 2012), Commodity under the management of fully insured, full liable

collateral management company(SGS, ACE), used by large operators to secure finance ,ensures security to lending institutions but expensive, Due to this in 2000 emerged Zambia Agricultural commodities Agency (ZACA). It is donor-funded non-profit company promoting a warehouse receipting system (Vorley, 2009) which is certification and inspection agency.

Coulter, (2009) states that ZACA ceased operations in 2006 due to management and reputational issues, brought early end to donor funding, Focus on financing, limited 'buy in from financial sector, hence perceived to be of little value to agricultural sector. The system failed also due to its behavior to focus on smallholder, warehouse receipting (donor orientation), ZACA never found a place in the market. Failure of ZACA to assist smallholder farmers to improve their income, new initiative by ZAMACE starting with the market which creating incentives for transparent and volumes-based trade (Tembo, 2010).

In this system warehouse receipts needed for 'sight-unseen' trade, focusing first on establishing credibility of receipt, recognize importance of warehouse receipt system for smallholder emergent farmer inclusion trade confidence. (Coulter, 2009) states that ZAMACE introduced to assist smallholder farmers by using certified warehouse receipt system since it is a private registered company, have physically secured storage facilities, trained warehouse staff, comprehensive stored-crop insurance public facility, provide robust certification oversight and inspection role, maintain database of all ZAMACE documentation, operated in transparency and price discovery. It emphasis the stand still of ZAMACE in its operations by removing all position-takers between the farmer or trader and end market, offers the best possible market price under prevailing market conditions, mitigates substantial risks in transactions, empowers the farmer to evolve from price-taker to price-setter hence create the opportunity to access credit from financial institutions as a result improve their income.

In Malawi, the main food crop is maize followed by cassava, while cash crops include tobacco, tea, cotton, sugar cane, macadamia nuts and ground nuts (Baker, 2006). Due to food security concerns Government has been heavily subsidizing inputs so that farmers can produce high yielding maize varieties and this has caused a major increase in annual production (Belmont, 2007). There was a successful pilot Warehouse receipt system in 2005, but the approach had to be abandoned in 2008, raising questions as to whether such complex technical operations can be institutionalized in highly politically-charged environment.

Malawi is in the process of establishing a pilot regulated warehouse receipt system and at the same time two large trading companies are seeking to provide warehouse receipting services on their own, with donor or public support (Triodos, 2007). There are various other initiatives to enhance rural storage and local bulking of surpluses, involving hermetic storage technologies, storage by producer organizations (linked to microfinance or banks), and grain bulking by certified trade intermediaries. However these initiatives are either at the design or pilot stage.

Fraslin, (2007) reported that in Madagascar, rice is dominant food crop and the approach of warehouse receipt system adopted was a credited-led system. The system involves a process where soft loans are injected against member share capital, which serves as partial collateral, with a view to building the level of operations to a level where it can refinance itself with commercial banks.

The system made major strides in this direction, but still needs donors to provide some funding and guarantees with the commercial banks. Author reported that there are five loan products, including storage loans, production loans, hire purchase, commercial loans and social emergency loans. The storage loan component has followed a growing trend of

paddy per annum and network of small stores usually rooms in domestic dwellings, under a 'dual key' arrangement. The warehouse receipt system in this country operated in the situation that farmers deposit their grain (maize or paddy rice) individually and have it stored identity preserved, all strategies implemented failed to explain the shortcoming of the warehouse receipt system in improving income of smallholder farmers.

Coulter, et al (2009), explained that Kenya attempts to establish a regulated warehouse receipt system, have focused on maize and builds on existing initiatives by some companies like Eastern Africa Grain council(EAGC), Lesiolo Grain Traders LTD of Nakuru and Grain Bulk Handles of Mombasa.

Kenya Agricultural commodity Exchange (KACE)-provide market information, USAID and Government owned National cereals and produce Board (NCPB) that are already providing storage services to the public. NCPB has over 110 warehouses with around 1.8 million metric tones storage capacity, much of which is underutilized and could be leased or sold to commercial warehouse operators.(Jayne and Arign, 2009 p 263)

Fowler, (2008) emphasize that in Kenya there was no policy and legal framework that encourage farmers to deposit their grains in public warehouses. Hence, smallholder farmers sell their produce at throw away price during harvest time for cash income contrasts with buyer's need for steady and reliable supply. While large-scale end-users can structure long-term supply arrangements because they have easier access to working capital, smaller-scale buyers face acute liquidity constraints and face difficulties in obtaining production finance to produce inputs, hence hampers output growth hence low farm productivity.

To ensure smallholder farmers to have effective markets for their produce equity banks has invested time and energy in understanding the warehouse receipt system, developing

policies and procedures and training at branch and head office level. Equity does not require borrowers to put guarantees additional to the warehouse receipt and claims to turn around credit application. However the introduction of warehouse receipt system failed to operate due to government interventions by introducing the NCPB and the board controls (Senwes, 2007)

In effectiveness of warehouse receipt system caused by the government to introduce NCPB brings out the establishment of EAGC which make sense in terms of market requirements and underlying political economy; while providing for the development of modern market institutions in the region, it helps stakeholders to establish a dialogue with the governments that gives greater weight to issues that affect the longer term development of the grain industry vis-a vis governments immediate political concerns. The discussion between stakeholders and government shows that there is ineffectiveness of warehouse receipt system in Kenya to improve smallholder income.

#### **2.4.3 Empirical review in Tanzania**

In Tanzania, warehousing of cashew emerged from initiative in Mtwara region, in 2007, with the objective of enhancing the efficiency of the primary marketing system for raw cashew nuts (Swai, 2007), government was concerned that marketing liberalization had not delivered on its promise, that the market was not transparent and that buyer's agents were paying derisory prices for the raw nuts (Onumah and Temu, 2008 p.192)

The new system is a combination of the warehouse receipt system, government minimum pricing and an officially sanctioned cooperative procurement monopsony, involving the same primary societies and regional cooperative unions that operated prior to liberalization, such that the exporters and local processors are not allowed to send their buyer in the field (Swai, 2007)



The URT Ministry of industry, Trade and Market report (2007) put in place the warehouse receipt system to the greater height since the report explain that; The system had been successful in raising prices to farmers, though part of the increase was permitted by favorable world prices in 2007/2008. The report emphasis that the warehouse receipt system halted the establishment of out grower schemes linking buyers and farmers and which help the latter raise productivity and improve nut quality.

The politically-sensitive system of minimum pricing does not sit well with a warehouse receipt system which seeks to be market-driven and in 2008/09 this resulted in a costly stand-off with buyers (Shaun, 2007).The warehouse receipt system empower elements with good links to government ie cooperatives and particularly unions which had become largely discredited, warehouse owners who have benefited from privatization to detriment of farmers, this may bring ineffectiveness for the system to work efficiently and effectively due to the fact that government intervention minimize private sector involvement in the market system (Fraslin, 2005).

A procurement monopsony does not have much incentive to work efficiently, there is some awareness of the risk in government circles due to the fact that government have no professionals to run the system since government depends on local government cooperative experts. The weakness of rural SACCOS and their lack of professional management pose a major challenge, there are some striking in consistences in the policy and regulatory frameworks which in the case of agricultural marketing and microfinance have increased the hazard in establishing warehouse receipt system.

The intervention of government hinder the effectiveness of the warehouse receipt system is the presence of regulations which goes hand on hand to the social, demographic variables in a specific area of warehouse receipt system operation (Belmont, 2007). In Tanzania the presence of warehouse licensing board providing much needed assistance in establishing warehouse receipt system. However, the inconsistencies raise questions in the

government's ability to support a tough regulations regime of the Country which need to ensure the integrity in warehouse receipt system in the long run.

Through all literatures, observations showed that the major problems in establishing warehouse receipt systems in Africa is disabling elements in the policy environment, Drawing experience in most projects implemented in Africa during the last decade, authors outline how this challenge can be addressed, the most crucial being to build strong stakeholder support behind the initiative, Warehouse receipt system is one of the market reforms for agricultural products.

Agricultural market reforms in Africa focused primarily on' rolling back the states the orthodox thinking being that state interventions directly or indirectly create distortions that undermine market efficiency and had to be dismantled (World Bank, 1997) Little emphasis was placed on developing institutions to help the private sector succeed in expanding its marketing activities, However unlike the ideal market model that underpin market liberalization, agricultural markets are constrained by high transaction costs, imperfect information and incomplete market.

## **2.5 Research Gap**

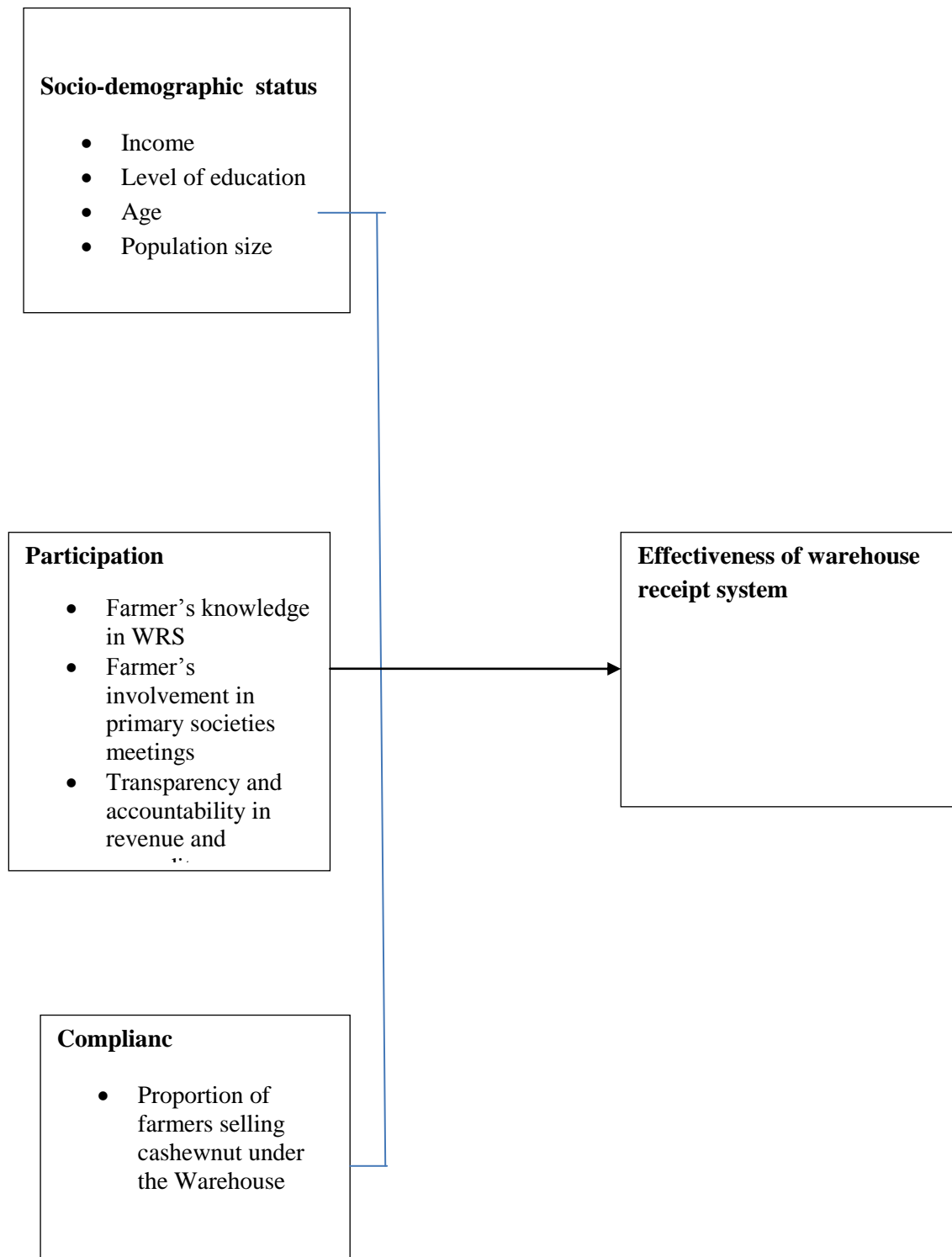
There is enormous literature on warehouse receipt system worldwide (Kariakov, 2009). Nevertheless, there is less evaluative material on the performance of warehouse receipt system especially on improving smallholder income in developing countries and Tanzania in particular. This is a gap in the on going debate about the effectiveness of warehouse receipt system which this study intends to fill.

## **2.6 Conceptual Framework**

The study conceptualizes that smallholder cashew nut income depends on the presence of effective and operational efficiency of warehouse receipt system. The effectiveness of

warehouse receipt system depends on participation of smallholder farmers in the system within which it is influenced by farmer's knowledge on warehouse receipt system, farmer's involvement in primary society meetings. The participation of smallholder farmers in warehouse receipt system depends on level of education, age and population size.

Presence of rules and regulation in the warehouse receipt system impliedly affects positively transparency and accountability in revenue and Expenditure which in turn is the fruits of Effectiveness of warehouse receipt system since policy gives direction, regulation through licencing and inspection of warehouse receipt system and operations guarantee and credibility of the system. As the income of smallholder farmers improved due to effectiveness of warehouse receipt system many farmers can be encouraged to sell their cashew within the boundaries of warehouse receipt system as a result the government itself can access the revenue and increase transparency in warehouse receipt system.



**Figure 2.1** Title: Relationships between Demographic Variables and Effectiveness of WRS

*Source: Researcher's own construct*

NB: Socio-demographic status, Participation and Compliance are independent variables while Effectiveness of Warehouse receipt system is dependent variable.

## **2.7. Theoretical framework**

### **2.7.1 Socio-demographic status**

The field of social demography uses demographic data and methods to describe, explain and predict social phenomena. It also measures the effect of social forces on population distribution. Social demography investigate the social status composition and distribution of a population(Heer, 2005). It emerged as a prime tool to isolate, explain and predict factors influencing social issues such as residential segregation, unemployment and income gaps between status groups(Hirschman *et al.*, 2005)

Social demographic status in this study includes income of the smallholder farmers, their level of education, age and population size. Income of smallholder farmer participate in improving the effectiveness of Warehouse receipt system since it plays a role in enhancing production at large quantity of cashew with good quality by introducing fertilizers and pesticides on time since income increase purchasing power, the effectiveness of Warehouse receipt system pays farmers large price per kilo of cashew with little reductions like taxes and other contributions hence increase the income to smallholder farmers as a result more farmers voluntarily sells their cashew within the warehouse receipt system.

Improving the income of smallholder farmers influences the effectiveness of warehouse receipt system due to the fact that it accelerate other economic activities within the stakeholder of the warehouse receipt system likely farmers, banks, AMCOSs, specifically in the trade of agricultural inputs hence in vicious cycle it make the system to work on.

Effectiveness of Warehouse receipt system in Improving Income of smallholder farmers is contributed by the level of education of the smallholders themselves since education is the one which facilitates the Warehouse receipt system compliances, it influences the application of proper use of fertilizers in the production of cashew which at the end produce

large quantity of cashew with good quality which is needed in the warehouse receipt system to raise the price of cashew per kilogram.

Education level plays important role in strengthening Agricultural and Marketing Cooperative Societies since presence of educated leaders in these AMCOS's may influence strong existence of these societies which are the supervisors of farmer's cashew in the overall warehouse receipt system, also assisted in bargaining of price with buyers and Contract building during selling and buying of cashew. Education level of AMCOS leaders and farmers also assisted the application of entrepreneurship skill to invest the obtained income from the warehouse receipt system to other economic activities which in turn shorten the ability of AMCOS to opt loans from banks at higher interest rates.

Age is one of the demographic variables which affects the effectiveness of warehouse receipt system due to the fact that cultivation of cashew in large areas of Tandahimba is done by elders on the heritage farms and old cashew trees, number of people below the age of 30's they don't have farms to cultivate cashew instead they are the ones who participated in buying and selling of cashew outside the warehouse receipt system(*Kangomba*). Presence of large number of people who are energetic in buying and selling of cashew outside the WRS cause the inefficient and ineffectiveness of the warehouse receipt system which in turn bring the income of the old farmers to be low.

Most of AMCOS leaders are farmers who possess farms with cashew trees not more than 100 and in most cases they are at the age between 25 and 35 years, Presence of these age groups in leaderships brought number of conflict in these farmers associations especially theft of collected income from farmers in the overall business of cashew and agricultural inputs which has government subsidies, hence hinder the effectiveness of the warehouse receipt system due to the fact that number of leaders in the AMCOS's they don't stay longer in their positions which shorten the supervision of smallholder cashew in auctions,

failure of AMCOS's to make good contracts with banks, farmers failed to get agricultural inputs on time hence low production, Officers in cooperative department in the District Executive Director engaged in mediating and conflict resolution within AMCOS's rather than doing their jobs to strengthen cooperation in the District among smallholder farmers.

### **2.7.2 Participation**

Participation in social science refers to different mechanisms for the public to express opinion, and ideally exert influence regarding political, economic, management or other social decisions (Fung, 2005). Participatory decision making can take place along any realm of human social activity including economic (i.e. participatory economic), political (ie participatory democracy), management (i.e. participatory management), culture(i.e. poly-culturalism) or familial (i.e. feminism) (Connor, 2007).

For well-informed participation to occur, it is argued that some version of transparency such as radical transparency is necessary, but not sufficient. It has also been argued that those most affected by decision should have the most say while those that are least affected should have the least say in a topic (Greenwood,2007). Specifically participation activities can be town hall meeting, advisory committee, opinion poll participatory design, referendum, protest and vote.

The study involve corporate participation in the corporate sector has been studied as a way to improve business related processes starting from productivity to employee satisfaction. Participation of smallholder farmers in the overall warehouse receipt system resulted to effectiveness and efficiency of warehouse receipt system since farmers are in the position to know how the system is operated with reference on how profit is obtained among participants like farmers, banks, warehouse holders and buyers.

Participation of farmers in the system allows transparency especially in auctions and hinder pricing set up among buyers hence the price of cashew increased yearly due to inflation rather than this two years cashewnut seasons 2010/2011 and 2011/2012 where the price remained Tshs 1200/= caused by buyers to collude themselves not to buy cashew at higher price above Tshs 1200 due to absence of openness in auction, as the number of people involved in the auction due to participation it reduce probability of collusion among buyers in the free auction of cashew.

Participation allows penetration of knowledge to smallholder farmers concerning warehouse receipt and production of cashew with good quality since farmers are in the position to recognize themselves as part and parcel of the system and agriculture as the business entity. Participation facilitates large number of smallholder farmers to join in primary societies and the involvement of farmers in primary society meeting hence improve the effectiveness of warehouse receipt system by increasing the decision makers in the overall system.

### **2.7.3 Compliance**

Compliance is a state of being in accordance with established guidelines, Specifications or legislation or the process of becoming so, it refers to behavior in accordance with legislation or compliance cord. It takes many forms, it can be a mix of policies, procedures, documentation, internal auditing, third party audits and security, controls and technological enforcement (Oosterhout and Van, 2009 p.79). With regard to warehouse receipt system, all operations running the system should meet the warehouse receipt Act of 2005

Presence of beneficial rules and regulations in the warehouse receipt system which favour smallholder farmers to improve their income allows farmers to sell their cashew in the warehouse receipt system hence its effectiveness persists.



## **CHAPTER THREE**

### **3.0 RESEARCH METHODOLOGY**

#### **3.1 Introduction**

This chapter outlines the research design, the research method, population under study, the sampling procedure and the method that used to collect data. The reliability and validity of the research instrument addressed.

#### **3.2 Research Design**

The research used descriptive survey combining both qualitative and quantitative methods (Kothari, 2004). The study employed documentary review, semi-structured questionnaires, key informant interviews and focus group discussions, this is due to the fact that various method used assisted in making consistence of data.

#### **3.3 Area of the study**

This study involved three wards which is Mahuta, Nahnyanga and Kitama. From Mahuta villages of Mkurung'ulu, Nakayaka and Mahuta bondeni involved in the study, while in Kitama, Villages of KitamaI, Kitama II and Mwenge were involved. In Nahnyanga villages of Nahnyanga 'A', Nahnyanga 'B' and Miule were choosen. The mentioned areas are choosen with regard to production levels statistics brought about from their primary societies in 2010/2011 and 2011/2012 crop season starting from the highest, medium and the lowest.

#### **3.4 Population of the study**

Polit and Hungler (1999:37) refer to the population as an aggregate or totality of all objects, subjects or members that conform to asset of specifications. In this study population are cashewnut farmers (Smallholders) men and women of all races, age groups, education

status, socio-economic status and residential areas, who in one way or another engaged in warehouse receipt system in Mahuta, Nahnyanga and Kitama.

### 3.5 Sampling and Sample Size

The research population is all smallholder farmers in Tandahimba District Council. The study adopted a stage sampling at ward and village level, selection of the study sites was by purposive sampling based on the cashew production level, Key informants were purposively selected for the warehouse receipt system. Organizations like MPEWATA, TANECU and UWAKOTA are participated in the discussion to stir out the problem facing Warehouse receipt system.

Three wards of Mahuta, Kitama and Nahnyanga have been selected with regard to the quantity of cashewnut sold in Warehouse receipt system recorded in primary societies (i.e. highest, medium and lowest) in 2011/12 cropping season. In each ward three villages have been selected in Mahuta, Villages of Mkurung'ulu, Nakayaka and Mahuta Bondeni participated in the study, in Kitama villages of KitamaI, Kitama II and Mwenge while in Nahnyanga villages of Nahnyanga 'A', Nahnyanga 'B' and Miule have been participated in the study, From each village 10 household heads are selected randomly, hence the total number of Respondents was 123

**Table 3.1 List of respondents to questionnaire in AMCOSs**

Name of ward	Name of AMCOS	Number of individual respond to questionnaire
Mahuta	Mahuta AMCOS	1
	Mkurung'ulu AMCOS	1
	Nakayaka AMCOS	1
Kitama	Kitama I AMCOS	1
	Kitama II AMCOS	1
	Mwenge AMCOS	1
Nahnyanga	Nahnyanga AMCOS	1
<b>Total number of respondents</b>		<b>7</b>

**Table 3.2 Public officials who Respond to questionnaire**

<b>Name of Office</b>	<b>Number of Respondent</b>
DED	1
DALDO	1
CBT Director	1
Cooperative Society officer	2
Livestock officer	1
<b>Total number of Respondent</b>	<b>6</b>

**Table 3.3 List of WRS stakeholders who participated in Focus group Discussion**

<b>Name of stakeholder</b>	<b>Number of people participated in the Meeting Discussion</b>
TANECU board Member	4
MPEWATA Board Member	6
UWAKOTA	10
<b>Total number of respondents</b>	<b>20</b>

**Table 3.4 List of households heads filled Questionnaires**

<b>S/N</b>	<b>SEX</b>	<b>Number of Respondents</b>
01	Male	67
02	Female	23
<b>Total</b>		<b>90</b>

### **3.6 Data Collection Methods**

The primary data source collected through semi-structure questionnaires administered to smallholder farmers who sold their cashewnuts to primary societies between 2010/2011 and 2011/2012. The questionnaires supplemented by documentary reviews and key informants interviews with a district officers and leaders of primary societies. Focus group discussion

was conducted to stakeholders of warehouse receipt system these are TANECU, MPEWATA and UWAKOTA.

Secondary data was collected through books, Acts and regulations relating the study topic, contracts between banks and AMCOS's .

### **3.6.1 Questionnaire**

Questionnaires are set in various groups such as smallholder farmers, Primary society leaders and householder heads, setting out of Questionnaire enabled to answer specific objectives of the study by assessing whether warehouse receipt system improves farmer's income, Participation of farmer's in warehouse receipt system and to identify the capacity needs of smallholder farmers to be engaged in Warehouse receipt system.

### **3.6.2 Interview**

This has been done to public officials through checklist questions objectively to answer critically the general objective of the study. It has been done to collect different ideas ,opinions, suggestions, recommendations concerning the operations of warehouse receipt system in Tandahimba.

### **3.6.3 Focus group discussion**

Discussion groups was conducted to various warehouse receipt system stakeholders these include Farmers association UWAKOTA, MPEWATA and TANECU aim to answer specific objectives of the study.

### **3.6.4 Documentary Review**

Various documentaries such as Acts, regulations, By laws of primary and Secondary societies, different contracts between primary societies and bank which provide loans in the warehouse receipt system in the study area have been passed through. The information gathered from the documented literature was used to identify gaps and weak areas for

improvement. The overview entailed information gathering on going and past experience in the global, regional and local initiative on the subject.

### **3.7 Reliability and validity of data**

Validity is defined as measure of truth or falsity of the data obtained through using the research instrument (It is classified as internal and external validity of the measuring instrument (Burns and Grave 2001 p.226)

In this study validity refers to the measure of truth or falsity of the collected information from various information gathered and respondents to answer the effectiveness of warehouse receipt system on improving smallholder cashewnut income in Tanzania. Several factors could influence the internal and external validity of measuring instrument, structured interview schedule used in this study involve the small holder farmers who were present before and after the introduction of warehouse receipt system in Tandahimba, parameters of age, sex, production capability yearly are used to enhance the validity of the collected data.

Reliability is the degree of consistency with which the instrument measures an attribute (Polit and Hungler, 1999 p.255)It further refers to the extent to which independent administration of the same instrument yields the same results under comparable conditions(De Vos 1998:85).The less variation the instrument produces in repeated measurements of an attribute the higher the reliability.

An instrument which is not valid cannot possibly be reliable (Polit and hungler, 1999 p.250). It is the stability or consistency of scores overtime or across raters, Reliability pertains to scores not people, Thus in research we would never say that someone was reliable.

In ensuring reliability in this study the responses obtained through the interview schedule were split into two equal halves, they were then scored independently to check correlation

### **3.8 Data Analysis Technique**

Before analyzing the data, the instruments were edited to check completeness, clarity and consistency of the responses. Data was analyzed qualitatively where they were grouped in themes and reported accordingly.

The units of analysis are the primary society and individuals (farmers, district officer and primary society leaders). The study used descriptive analysis and multiple regression analysis for questionnaires and content analysis for the key informant's analysis. Chi-square test are used to establish the association between specified variables. Various methods such as tables and descriptive text, will be used to present the analyzed findings.

## **CHAPTER FOUR**

### **4.0 RESULTS AND DISCUSSION**

#### **4.1 Introduction**

The general objective of the case study was to assess the effectiveness of Warehouse receipt system on Improving income of smallholder farmers in Tandahimba District. The study focused on the key element that hinder the improvement of income to smallholder farmer even though the aim of the system is to assist smallholder farmers in improving their income.

The study embarked to various area of warehouse receipt system such as performance guarantees, quality standards, storage infrastructure and identifying the capacity building needs of smallholder farmers.

The study findings were reported per specific objective,

#### **4.2 Does Warehouse receipt system Improve income of smallholder cashewnut farmers?**

The study objective was set to understand whether warehouse receipt system after its introduction in Tandahimba assisted farmer to improve their income as compared before the introduction of the system. The study explored possible limitations that hinder income generating to smallholder cashewnut farmers. It focused on challenges encountered price volatility, shrinkage, logistics and technical. The listed parameters were investigated per entity interviewed.

The study revealed that despite of the fact that warehouse receipt system increased the price of cashew per kilogram from the average of Tshs 800/= to 1200/= for two years cashewnut seasons 2010/2011 and 2011/2012 but the income of the smallholder farmers remain domant.

The increment of the price by 50% fail to measure the improvement of income to smallholder farmers. The warehouse receipt system operational guidelines released in 2006 to date comprises number of segments procedure in the system which in one way or the other add costs to smallholder farmers to run the warehouse receipt system.

The study interviewed nine secretaries of primary societies in nine villages in the study areas revealed that each season from 2010/2011 and 2011/2012 there are amount of money paid from the primary societies account to secondary society TANECU which in turn reduces the amount of bonus to farmers, 1% of ceiling price of each kilogram of cashew sold in the warehouse paid to TANECU in expectation of shrinkage, Tshs 21/= is paid for each kilogram of cashew sold in the warehouse as TANECU Contribution, farmers are supposed to pay 3500/= per each new bag borrowed to put their cashew to primary society to sell, 5% of the total kilogram sold in the system for ceiling price is supposed to be paid to the government as levy. Since in the warehouse receipt system cashew are sold in auction bases, the buying price cashew may be reached at the minimum level in such a way that it doesn't pay the running cost of system itself hence at that point farmers would not paid bonus.

**Table 4.1 Collection of cashewnut in warehouse receipt system**

s/n	Name of AMCOS	Storage capacity(Tones) 2010/2011	Storage capacity (Tones)2011/2012
01	Mahuta AMCOS	403	431
	Mkulung'ulu AMCOS	346	389
	Nakayaka AMCOS	267	301
	Mwenge AMCOS	438	449
	Kitama I AMCOS	461	428
	Kitama II AMCOS	367	354
	Nanhnyanga AMCOS	363	289

*Source: Data collected from the AMCOS's*



From the table above it shows that the collected cashew increases in two year seasons, gives the reflection of increasing the income of smallholder farmers who are the member of primary societies through bonus, but the results shows that AMCOSs which collected large amount of cashew in their warehouse receive little amount of bonus payment than that which collected small amount of cashew in their warehouse. Data collected from Mahuta AMCOS shows that in the season 2010/2011 farmers were paid a bonus of Tshs 113/=per kilo of cashew and in 2011/2012 farmers were paid Tshs 132/=per kilo of cashew, while Kitama II AMCOS which collected less kilos of cashew in their warehouses but the amount of bonus payment was Tshs 144/= per kilo of cashew in the season of 2010/2012 and Tshs 163/= in 2011/2012 cashew season. The differences of bonus payments with regard to the number of kilos sold in the warehouse is brought about by decrease in kilos of cashew at the point of collection in the AMCOSs, during transportation and in warehouse this is mainly due to theft among many reasons, hence decrease the income of smallholder farmers per cashew season.

From the buying prices of cashew through warehouse receipt system 2010/2011 the buying price of each kilo of cashew sold in the system was Tshs 1492/= while in the crop season of 2011/2012 the buying price of cashew per kilo was 1600/= this implies that smallholder farmers may increase their income by the warehouse receipt board to monitor the system in the open auction and reducing the unnecessary costs in the transaction. The results shows that if the transaction costs like Tshs 21% deducted from each kilo of cashew sold in the warehouse just to run the secondary society TANECU and 1% of ceiling price per kilo of cashew paid to anonymous shrinkage withheld the farmer will get Tshs 1279/= per kilo of cashew sold in the warehouse regardless of expected bonus, This will assist the farmer to pay other agricultural inputs in turn increase production of cashew.

The study revealed that lack of transparency in the warehouse receipt system cause smallholder farmers to be paid small prices for their cashew. The interview conducted in

Mahuta 32 respondents out of 37 which is 86.49%, 19 respondents out of 33 which is 57.57% in Nahnyanga and 25 respondents out of 40 which is 63% in Kitama they don't know how the price of their cashew are calculated in each season 2010/2011 and 2011/2012 this implies that farmers are not price setter but they are price taker in the overall system of warehouse receipt.

Payment mode of cashew in the warehouse receipt system in pieces of two installements and anonymous bonus ie the first payment of 60% of buying price which is Tshs 800/= and the other 400/= after two or three Months and finally bonus pay for all cropping season 2010/2011 and 2011/2012 cause farmer to use the little amount of money obtained at that particular instance to pay necessary costs like buying food, clothes and school fees for their children rather than putting obtained money in investments.

The study revealed that from the interviewed 18 out 37 which is 47.3% of respondents in Mahuta ward, 19 out of 33 respondents which is 56.7% in Nahnyanga and 25 out of 40 which is 61.8% in Kitama failed to buy even a single iron sheet for their houses in all crop seasons 2010/2011 and 2011/2012 (Other factors held constant). To assist these smallholder farmers to obtain maximum income from their cashew through warehouse receipt, government should not put aside its hands.

Strengthening of Agricultural and Marketing Cooperative societies (AMCOS) may influence the income of smallholder farmers to improve, this is due to the fact that many AMCOS leaders in the study areas involved in theft and there are no laws which bind them. The study shows that there is much alterations of figures of cashew sold in the warehouse receipt through auction and that collected from AMCOS, these bring the decrease of bonus pay to farmers, regardless of shrinkage of cashew to unknown reasons but the study revealed that in 2010/2011 the cashew collected in Mahuta AMCOS 40.3 tones out of 403 tones collected lost (shrink) which is 1.0% of the total cashew collected.

In Nanhnyanga AMCOS 2.45 tones out of 363 tones collected which is 0.68% shrinked (weight loss) and in Kitama I AMCOS 4.43 tones out of 461 tones collected which is 0.96% shrinkage after been measured again during selling, This implies that the amount of bonus paid to smallholder farmer decreased by the same amount, hence shows ineffectiveness of Warehouse receipt system and stagnation of income to smallholder farmers

Increase in income of smallholder farmers it cause access to education and health improved and some communities were able to build new and modern housing, as well as purchase motorcycles and bicycles to ease transportation problem. Interview conducted in the villages of Mkulung'ulu, Mahuta, Nakayaka, Nanhnyanga, KitamaI, Kitama II and Mwenge shows that 47% of respondents own old bicycles, 2% own motorcycle and 13% lives in houses which has less than ten iron sheets build by sand. Like wise income of the smallholder farmers can be measured by looking their participations in SACCOS and other financial institutions.

The study revealed that in the interview conducted in the study areas 9 out of 30 women which is equal to 30% of participate in economic activities other than agriculture like having loan in the bank and to be a member in financial institutions and 21 out 30 respondents equal to 70% of men participate in other economic activities like small businesses and they opt loans in the banks.

Introduction of warehouse receipt system in study areas created employment in various activities related to WRS such as transportation, dusting and security but this employments are not beneficial to the people around Tandahimba due to the fact that, people around the study areas they don't have transportation facilities like trucks for transportation of cashew from AMCOS in the villages to Warehouses situated in Tandahimba town, Newala and

Mtwara as a result money circulation in the study areas remain as they are which hinder other economic activities in the villages.

The Warehouse receipt system strengthen relationship between National Microfinance bank, AMCOS and smallholder farmers, resulting in more favorable loan terms for agricultural producers but the study shows that 8 out of 37 respondents interviewed which is equal to 21.62% of smallholder farmers in Mahuta ward, 22 out of 33 respondents equals to 66.67% of respondents in Nahnyanga, 7 out of 40 respondents equals to 18.6% of respondents in Kitama I and 15 out of 27 which is equal to 55% of respondents in Kitama II opt to have agricultural loan from the banks, this is due to the fact that number of smallholder farmers failed to meet criteria to have the loan as the result the economic activities and cashew production in the area remain stagnant.

#### **4.2.1 Roles of Financial Institutions in Improving income of smallholder farmers**

The role of financial services can help to improve the income of smallholder farmers and can enable them to participate in economic activities. Improvement of overall agricultural market-specifically through reduction in price variability and more efficient marketing can enhance the livelihoods of the rural poor.

Warehouse receipt system can be profitable for both Financial Institutions likely banks and farmers. The study shows banks enjoys a high repayment rate on the warehouse receipt loans than farmers as illustrated in the table below.

**Table 4.2 Estimates of Net Incremental Earning from Cashew under WRS in 2011/2012**

Year Season	Harvest time price/80kg bag	Loan/80kg bag 15% A	Cost of loan and other storage cost(Actual) Per 80kg bag	Selling price/bag in WRS	%increase from harvest to sales price $\frac{D-A}{A} \times 100$	% net increment benefit to farmer $\frac{D-(A+C)}{A} \times 100$
2010/2011	<b>A</b> 96,000/=	<b>B</b> 14,400/=	<b>C</b> 16,147.75/=	<b>D</b> 119,360/=	<b>E</b> 24.33%	<b>F</b> 7.51%
2011/2012	96,000/=	14,400/=	16,147.75	125,600/=	30.83%	14.01%

*Source: Kwadzo, George "Inventory credit. A financial product in Ghana" Presented at the Conference on Advancing Microfinance in Rural West Africa"*

The data filled in the table above is obtained through interview with secretaries of AMCOSs in the study area and in Cashewnut board of Tanzania. From the table it shows that for every Tshs 100/= that National Microfinance bank (NMB) give as loan in the primary societies of Mahuta, Mkulung'ulu, Nakayaka, KitamaI, KitamaII, Mwenge and Nahnyanga it gets Tshs 24.33/=extra in the cashew season of 2010/2011 and Tshs 30.83/=in cashewnut season of 2011/2012 while cashewnut farmer got Tshs 7.51/= for every Tshs 100/= used in the production of cashew in the season of 2010/2011 and got Tshs 14.01/=in cashewnut season of 2011/2012

These financial institutions which come into contracts with AMCOS's can assist smallholder farmers to increase their income through cashewnut production by providing immediate credit to the rural farmers after harvest through either formal or informal institutions so that farmers can be able to pay immediate debts and the remaining income can be used in other economic activities, Through delayed sales as well as the elimination of Middle men, rural farmers can often obtain better prices for their cashew resulting in increased income for the household

### **4.3. How do farmers participate in Warehouse receipt system**

The study explore to understand the design of warehouse receipt system that is accessible and beneficial to smallholder farmers, including evidence to demonstrate benefits and meets their needs. It focused on information flow including market price, farm gate price, warehouse price and flow information. It evaluate the engagement of smallholder farmers in the warehouse receipt system, Capacity and knowledge on how the warehouse receipt system goes about.

#### **4.3.1 Participants of Warehouse receipt system**

There are basically five main players in Agricultural Marketing System development programmes, Warehouse receipt Model, These are farmers (Depositors), Agricultural Marketing Cooperative Societies (AMCOS), Collateral Managers, Commercial banks and Insurers. The study revealed that the Warehouse receipt system in the study areas goes in the sequential order; Farmers deposit their Cashew in a designated warehouse under the supervision of Collateral Manager and obtain a receipt, a copy of the receipt is sent to the AMCOS, farmer do not lose identity of their deposited cashew and remain responsible for identifying buyers and selling.

The AMCOS apply for a loan from a Commercial bank here all the AMCOS visited in the study obtained their loans from National Microfinance Bank(NMB) Tandahimba branch on behalf of the farmer based on the farmer's requirements as per the certificate from Collateral Manager. The AMCOS lend the loan to the farmer after receiving it from the bank, moreover AMCOS also Coordinate loan repayments by making sure that buyers of produce pay directly to the AMCOS or the bank.

The Collateral Manager safeguards the interest of the Commercial bank by ensuring that the deposited produce is of agreed quality and quantity until the farmer is ready to sell. The

bank advances loans to the AMCOS for on-lending to individual farmers or farmers groups at negotiated commercial rates.

The insurer provides insurance for the deposited produce, particularly against fire and theft, The Collateral Manager is insured under a 'professional indemnity cover' as a pre-requisite for the role.

Absence of transparency hinder the participation of smallholder farmers in warehouse receipt system. The study shows that 80 out of 98 respondents which is equal to 81.63% in the questionnaire they don't know how the warehouse receipt system operates and the costs of the system paid in various stages in the system. Despite of the fact that farmers in the warehouse receipt system are represented by AMCOS but the study revealed that leaders of this AMCOS know little of the warehouse receipt system especially on how the assumed bonus payment is obtained and calculated. Though AMCOS leader are the supervisors of farmer's cashew in auction but in the interview conducted for the cashewnut seasons 2010/2011 and 2011/2012 only 2 out of 9 AMCOS secretaries equals to 22.22% attended the Auction to represent their farmers to bargain prices for their cashew.

Participation of farmers in the warehouse receipt system can be interpreted by the farmers to know rules and regulations of the system especially reliability and enforceability of cashew standards (grades and measures),but in the study conducted with regard to the questionnaire shows that 4 out of 9 AMCOS secretaries who responded equals to 44.44% knows the cashew standards which are sold in the warehouse, this proves that farmers can be paid the price of the second grade of cashew instead of grade I standard of cashew.

#### **4.3.2 Fostering Ownership and Sustainability of Warehouse receipt system**

Beneficiary participation and enthusiasm have been key factors of success of the warehouse receipt system. In the study shows that increased awareness and strong enthusiasm of smallholder farmers boosted them in the participation of warehouse receipt system hence

point out where their income exhausted. From the focus group discussion with stakeholders like MPEWATA, UWAKOTA and TANECU, 8 out of 20 equal to 40% respondents who votes for the question that who is the owner of warehouse receipt system, gives the answer they don't know, this shows that the system has no possession by 40%, hence its sustainability is weak by the same percent.

The training on quality and quantity enhancement and organizational capacity-building provided within the system have led to change in mind sets, during the research process knowledge was impacted to smallholder farmers on how the system is operated, 13 out 28 equals to 46.42% smallholder farmers who received the knowledge changed their mind set positively to the warehouse receipt system by looking the system is there to improve their income regardless of minor shortcomings present. Farmers have started perceiving agriculture not only as a subsistence activity, but also as something profitable. This has boosted their sense of ownership over the warehouse receipt and led to its spontaneous replication.

Involvement of beneficiaries during the Construction and rehabilitation of roads and market centers also created a sense of ownership. Education concerning operations of warehouse receipt system to smallholder farmers should prosper the system to be sustainable and growing, since it brings economic and social benefits to the farmers. Imparting knowledge to the cashewnut farmers also innovate and incorporate AMCOS to fostered the sustainability of warehouse receipt system.

#### **4.4 Does the socio-demographic status of farmer influence his/her Compliance with Warehouse receipt system?**

The study focused on the believe that gender, level of education location, ethnicity, race, religion, family size, income level can influence compliance with warehouse receipt system



to smallholder cashewnut farmers. Having assessed the importance of those push motivational factors, the study clarify whether these motivational factors differ across various demographic groups.

To achieve the aim, series of t-test and one way ANOVA tests coupled with post hoc multiple comparisons, were conducted to test differences with respect to gender, age, education and income. The mean scores for each sub-group along with the result of the univariate test are shown in the table below;

**Table 4.3**T-tests of mean differences of warehouse receipt system participation

Social demographic variables	N	Participation in WRS	Escape from WRS	Appreciation of smallholder to WRS	Smallholder farmers with membership in political parties
Male	102	t=-4.954** 3.08	2.302 3.63	t=-2.250* 3.27	t=-3.435 4.01
Female	154	3.64	3.90	3.55	4.43
Age		F=1.785	F=1.406	F=0.941	F=9.154**
18-24	47	3.39	3.70	3.48	4.53b
25-34	57	3.34	3.88	3.32	4.17b
35-44	46	3.26	3.92	3.29	4.30b
45-54	66	3.65	3.86	3.51	4.54b
55-64	40	3.36	3.53	3.61	3.57b
Education		F=0.520	4.865**	F=2.134	F=0.915
Primary school	78	3.33	3.77a	3.30	4.37
Secondary school	42	3.49	4.23b	3.54	4.33
Person income(Tshs)		F=0.851	4.941**	F=0.333	F=2.018
≤100,000/=	38	3.43	3.85b	3.53	4.19
100,000 to 500,000/=	33	3.30	3.21a	3.29	4.01
500,000 to 1,000,000/=	47	3.53	4.07b	3.40	4.47

*Source:Authors Construct*

Note: \* and \*\* denote significance at 0.05 and 0.01 levels respectively

Means with different letters differ significantly based on multiple range tests at the 0.05 level

Significant differences were found between gender groups for three of the four influential factors to participate in the warehouse receipt system, Female show negative response in the Warehouse receipt system by bringing their cashew to the warehouse receipt agents (AMCOS) than men this is due to the fact that females are not responsible to run the family in day to day family costs like buying food and sending children to school, also in the District females don't have farms to cultivate cashew as compared to men that is why the number of females to participate and having knowledge on how the system operated become lower. Little amount of money obtained by females from little cultivated cashew are sold out of the warehouse receipt system (*Kangomba*) by exchange with other commodities like cooking utensils or paid little as compared to the warehouse receipt system are used to non-profit making activities. Male participate at a greater extent in the warehouse receipt system due to the fact that most men own cashewnut trees which inherit from their elders and are the ones who own the family.

Age groups were found to vary significantly on three of the four factors, the age groups of 18-24 rated not to participate full in the warehouse receipt system by selling cashew to the warehouse (AMCOS), the reason behind is that most cashewnut farms are owned by elders at the age of 50+ since a large number of cashew trees present in the study area and the District at large are that of inheritance not planted by the ones who owns at the present, hence people of the age below 24 are not engaged in farming practices rather they participate in small businesses in and out of the study areas and left the farming practices of cashew to the elder people.

In this study participation of smallholder cashewnut farmers in the warehouse receipt system are measured by the knowledge that farmers have in the warehouse receipt system

and the amount of cashewnut sold in the warehouse as compared that sold out of the system, in turn exclusion of people at the age of 24-35 to participate in cashewnut farming cause the system to be inactive as a result reduces the income in the family which brings out domination of poverty. The study reveal that production of cashew per family with a number of children above 5 and poligamic family heads is lower as compared to families with a little number of children below 5 per family and single marriage women per family head, this shows that as the number of people become larger in the family, large percent of income is used to run the family cost like buying food, clothes and medical expenses rather than engaging the income in cultivation of cashew hence warehouse receipt system become inactive in turn disturb source of income to the number of families in the study area since cultivation of cashewnut needs capital.

The results also revealed that the age group of 55-64 and 65+ rate social relationship with family/friends significantly lower than the lower age groups, these age groups on the other hand rated appreciating natural resources especially land significantly higher than the age groups below 45 hence the presence of enough land reflect the presence of number of cashew trees which resulted to the participation of smallholder farmer to the warehouse receipt system.

In terms of education background, the results show significant differences for two of the four influential factors to participate in warehouse receipt system. Smallholder farmers who reached secondary school up to form four being their highest education showed the highest mean score on the participation and acceptance of warehouse house receipt system as compared to their primary school counterparts, though smallholder farmers with education level of primary school have got more cashewnut trees due to occupation of large land. The result predicts that as the time goes, the production of cashew in the District will decrease due to the fact that most of the people in the study area at the age of 18-24 are not

participating in cultivation of cashew likely they don't have farms to practice farming which is the corner stone of warehouse receipt system efficiency and effectiveness.

With respect to income groups, the mean score are significantly different among two of the four influential factors, smallholder farmers with income level between Tshs 100,000/= and 500,000/=per cashewnut season escape from participation of warehouse receipt system by selling their cashew out of the system as compared to those with income above Tshs 500,000/= per cashewnut season measured with respect of the same kilogram of cashew sold 2010/2011, hence the study shows that age of smallholder farmers is negatively related to the importance of warehouse receipt system.

Income and education were important predictors of person's participation in WRS ie smallholder farmers with higher education background and more disposable income were more likely to participate in WRS and ultimately educational level was positively related to knowledge and participation in WRS by smallholder farmers.

#### **4.5 Does WRS its capacity needed by Smallholder farmers?**

The study identified the existing capacity and needs of smallholder farmers to handle cashew in a good year and the reasons behind the obtaining situation. It focuses on production level including quality produced per farmer, land size, existing cashew banks, awareness, Contracts procedures and timing. Enquire on quality standards with respect to moisture content and type of the cashew.

The study further examined the extent to which farmers have to be prepared to effectively adopt warehouse receipting as a cashew storage option among smallholder communities in Tandahimba. It focused on ability to handle cashew in terms of skills and Management of cashew. Look at the transport in terms of distance to the nearest market and certified warehouse and costs. Examined the infrastructure available to smallholder farmers including storage facilities, drying and capacity of storage facilities.

To answer the question various parameters like awareness level, level of quality standards adherence to cashewnut board of Tanzania, average storage period, average distance to nearest warehouse and average distance to nearest market are set and its data are collected per specific AMCOS.

The awareness level is calculated from the list of households heads filled the questionnaire, the number of household heads are taken randomly to ten for each AMCOS, The level of quality standards adherence to CBT these are data obtained in the cashewnut board of Tanzania per specific AMCOS which engaged in the cashewnut business each year, the storage period is obtained from warehouse holders it is the period between the collected cashew from farmers to the period when cashew is sold in the auction.

The average distance to nearest warehouse, this is done by the author between the AMCOS where farmers are used to collect their cashew and Warehouses situated at Tandahimba. The average distance to nearest market is calculated by the authors by measuring the distance between AMCOSs which is the collected centers of cashew from farmers and warehouse situated at Mtwara where cashew are sold by auction. Hence the obtained data are tabulated and interpreted as below;

**Table 4.4 Variations between capacities and WRS Compliances**

Parameters	Name of Ward					
	Kitama I	Kitama II	Nahnyanga	Mkulung'ulu	Mahuta	Nakayaka
Awareness level (Cashew Banking)	41%	37%	53%	56%	59%	49%
Level of quality standards adherence to CBT	72%	67%	65%	51%	81%	63%
Average storage period Months(Cashew Bulking)	2	2.3	1	3	3	2.7
Average distance to nearest warehouse(kms)	10	12	8	24	23	21
Average distance to nearest Market(Kms)	88	86	90	122	121	119

*Source: Data collected from the various sources as explain above*

The study findings indicate that the beneficiaries of Warehouse receipt system pilot initiatives in Tandahimba were mainly 90%. Smallholder farmers have limited 10% access to this innovation. The study revealed that the volume, distance travelled to the nearest warehouse, long queues, quality requirement and reliable information system are critical factors to consider when establishing a sustainable warehouse receipt system. The study found out that the average distance to the nearest market centers in the study area was approximately 104 Kms while the nearest certified warehouse was located approximately 16 Kilometers .

It is eminent that mandatory licensing would be necessary to ensure the performance of existing cashew banks and pilot warehouses to mainstream the initiative as viable business venture and cashew security strategy in Tandahimba.

The prospects of farmers adopting the system are high with aggressive awareness creation. For instance in Mahuta AMCOS the pilot warehouse receipt system was launched and had received 403 tones of cashew in 2010/2011 cashew season and the tones increased to 431 in 2011/2012 cashew season, Mkulung'ulu AMCOS received 346 tones in 2010/2011 and 389 tones in 2011/2012 cashew season, Kitama I collected 461 tones of cashew in 2010/2011 cropping season while 2011/2012 received 428 tones in 2011/2012, Kitama II received 367 tones in 2010/2011 season and 354 tones in 2011/2012, Mwenge AMCOS collected from farmers 438 tones in 2010/2011 whist 2011/2012 collected 449 tones and Nanhnyanga AMCOS collected 363 tones in 2010/2011 cropping season and 289 tones in 2011/2012 cashewnut season.

It was observed that the incremental changes on the market price of Tshs 1492/= to Tshs 1592/= of cashew per kilo in 2010/2011 and 2011/2012 in the cashew auctions influence production, high incremental prices influenced the production of cashew yearly and the re-system be accepted at the greater extent. The study observed that as the cashew remains in

the warehouse more than six Month waiting auction in warehouses, farmers get 6% of loss due to shrinkage and price loss, this discourages 47% of smallholder farmers to participate in the warehouse receipt system in Mahuta ward, 34.56% in Nahnyanga, 29.23% in Kitama I and 43.06% in Kitama II. This scenario poses a fundamental question on the underlying factors for a successful Warehouse receipt System in Tandahimba. It is emerging that there is a need to create awareness, re-packaging of Warehouse receipt system to accommodate themes and objectives of farmers.

#### **4.6 Discussion of Findings**

The study findings indicates that the beneficiaries of the WRS in Tandahimba were mainly 90% , however 87% of smallholder farmers in this study engaged in Warehouse receipt system from the total population. This shows that the system is the spear head and paramount important in the life of the people living in the Tandahimba District.

The study revealed that despite of the fact that government put emphasis in the Warehouse receipt system to improve the income of smallholder cashewnut farmers in various of crops in Tanzania, but in cashew the system goes negatively to the goals of the government. From the Warehouse receipt act Number 10 of 2005 and its regulations of 2006, it creates the institutions which on the other hand increase the cost of running the system and the overall costs comes from the smallholder farmers income. This scenarios poses a fundamental questions on the underlying factors for a successful, effective and efficient WRS of cashew in Tandahimba.

It is emerging that there is a need to create awareness, repackaging of Warehouse receipt system to accommodate small quantities produced by smallholder farmers and establishment of an elaborate market information system for better understanding of how to

improve the income of smallholder farmers by increasing price and reducing unnecessary expenses to run the system itself. This allows farmers to assess when is the best time to sell, financial institutions to assess the market value of the security and processors to be able to assess the value of buying the crop at particular time and quality.

The study revealed that the cost of storage, transportation, bagging , weighing and grading of one kilo of cashew before it has been sold to the auction for the cashew seasons 2010/2011 and 2011/2012 reached Tshs 1407/= while the price of cashew in the auction for the season 2010/2011 was Tshs 1492/= and 2011/2012 was Tshs 1600/=, economically this situation is not water tight. Structural adjustment should be taken in to consideration in running the Warehouse receipt system to reduce the cost of operations and raising the price of cashew per kilo so that smallholder farmers may increase their income from what they produce.

Effective Warehouse receipt system may increase the collected levy to the government since increasing the income of smallholder farmers through raising the price of cashew per kilo may influence large number of cashew farmers to sell their cashew into the system, hence the government may collect levy as per schedule of 5% from the ceiling price per kilo.

Moreover the income of smallholder farmers may increase to the large extent by strengthening their agricultural and Marketing Cooperative Societies in such a way that cashew farmers through their societies may process their produce through small industries operated by AMCOs under local supervised by trained warehouse operators before selling cashew in free auction as they are now. In so doing it may increase employment in their local areas and reducing the cost of running the WRS by reducing transportation cost since the volume of cashew may be reduced with high quality, storage cost and other implicit cost in the overall process. In the cost volume profit analysis perspective smallholder



farmers can measure their efforts by attaining maximum profit in this situation. Processing of cashew in local areas of the study may improve the income of smallholder farmers, the incremental changes may cover the costs of storage, hence makes delayed selling of cashew an attractive investment option for smallholder farmers. It also confirms that price was key determinants in the operations of cashew banks and WRS and processing cashew should be market-determined, so that farmers and traders process in expectation of higher prices or rush goods to market when spot markets are especially right (and prices are high).

Majority 85% of respondents filled the Questionnaire they don't have the knowledge of cashew quality standards, 60% of respondents in Mahuta, 40% in Nahnyanga and 70% in Kitama did not meet quality standards especially moisture requirement, grades of cashew that is grade I and grade II, hence smallholder farmers preferred selling their cashew to middlemen to avoid quality tests and easy access of their payments. Quality standards and grades are necessary to guide trading and facilitate efficient use of storage space as well as standardization of commodities stored to ensure the quality deposited is the same as that withdrawn, quality determines the price of the stored cashew, facilitates business transaction and finally determined the effectiveness of WRS, There is a need for documentation of the transaction and provide description of the quality of cashew stored without physically examined the goods.

The study revealed that participation of smallholder cashew nut farmers to WRS is poor, this is due to the fact that the system introduced without prior setting of environment including mindset of smallholder farmers to implement and comply with the system.

The decentralization theory suggests that local decision makers have more information on local needs and conditions as compared to central dictates, the introduction of the system by the government after the WRS act number 10/2005 and its regulation of 2006 though it is

done in good faith but smallholder farmers seems government dictates their authority from they produce. Participation of the smallholder farmers to WRS through imparting knowledge by conducting meetings, seminars, government may involve farmers in setting out of prices and all necessary means may assist to strengthen the WRS as a result brings out effectiveness of the system.

Putting the authority and decisions in the WRS may bring out positive outcomes some of these positive outcomes include democratization, rural development, public service performance and poverty alleviation. The local benefits from participation are believed to come from increased awareness and ownership to the system itself, which in turn increase efficiency and effectiveness. Participation may transfer the authority mentioned in the WRS act number 10/2005 and its regulation to the public functions this includes AMCOSs from the central government to subordinates or quasi-independent. It delegates powers performed by the Warehouse receipt board to smallholder farmers, it devolve the all system hence putting their hands out but the eyes on ultimately become accountable to it.

Absence of participation of smallholder farmer to the WRS make communication between holders of the system that are farmers (depositors), banks and Warehouse operators to be poor which in turn cause chaos between farmers and their leaders of AMCOSs, which are the ones who in one way or the other farmers tend to quarrel with them as they are near to the society unlike other participants.

Chester Barnard theory explained the importance of communication in any defined organization as the key factors to its efficiency and effectiveness, every one should know the channels of communication. For effective WRS every stakeholder should know who is doing what and at what benefit, this may uproot the chaos which is existing cashew season.

The lines of communication should be short and as direct as possible, competence of person serving as communication centers should be adequate and the line of

communication should be interrupted when the system is functioning and the communication should be authenticated. Participation through communication and education can lead to a number of positive outcomes, some of these outcomes include efficiency, openness, chaos reduction in turn bring out income generating activities within AMCOSs and hence effective of WRS.

The study revealed that socio-demographic status has impact on the WRS compliance this are age, sex, income and education. From the collected data it shows that the age group of 24-35 years they are not comply to the WRS since most of this group they do not have the full knowledge of cultivation of cashew despite of their powers they have in cultivation, this situation brings out negative inputs to the system due to the fact that this group are the ones which engaged in buying cashew outside the WRS (Kangomba). The effectiveness of WRS brings presence of quality and quantity of cashew produced, absence of man power in the production process resulted to the low production ultimately poor sustainability of WRS itself.

Due to the presence of By laws which run the AMCOSs that, in order for smallholder farmers to be in AMCOS they should have farmers and should sell their produce to the AMCOS. Hence the study shows that, this age group buy small farms of cashew with less than 50 cashew trees in order to be in the AMCOS as members with the intention of becoming leaders of their AMCOSs.

The study revealed that 60% of leaders of AMCOSs are at the age of 24-35 which in turn engaged in leadership with the intention of getting capital to do other business irrespective of assisting farmers who are old to get agricultural inputs and suitable market price for their produce.

The study further revealed that production of cashew which is the key operational of having WRS is done by old people with the age of 50+ to the inheritance farms which

produce less cashew as expected, due to this situation sustainability of WRS is still questionable in the near future.

Linear stages growth model assumes that economic growth can only be achieved by industrialization that is for the production of cashew and its persisting WRS to be sustained it should dominate to the industrialization perspective, but this situation will not occur due to poor transformation mechanism present since the production of cashew is done by old people who probably will not manage to go with new speed, new vigour and energy.

Income of the smallholder farmers have positive impact to the WRS compliance, the study revealed that smallholder farmers who earned more than Tshs 500,000/= per season are the one who produce high quality cashew and sell their produce within the warehouse receipt system. This implies that people who earned more are able to follow farming practices by applying fertilizers and pesticides to their farms.

From the permanent Income Hypothesis perspective by Milton Friedman, It is observed that choices made by consumers regarding their consumption patterns are largely determined by change in permanent income rather than temporary income. Improving the income of smallholder cashewnut farmers through raising price of cashew brings the transitory and temporary changes in their consumer spending behavior, ultimately their permanent income, here permanent income is the first phase of payment rather than the second and bonus payments.

The key determinant of consumption is individual's real wealth that is assets both physical (shares, bonds, property) and human knowledge and experience, hence effectiveness of WRS can be measured by education that smallholder farmers have and compliance to the system at large. From the capacity building and empowerment theory by Yash Tandon, it seems that poverty persists within the smallholder farmers is the stark

contract between the rich and the poor and the sheer number involved. The situation is top-down approach to develop and empower the people, empowering smallholder farmers which should be done by companies, banks and stakeholders is critical as it yields power in the local citizens by increasing the confidence in one's ability to access resources which is land and credit to be able to participate in more bottom up style of development.

The study revealed that capacity building is needed to smallholder farmers to enhance the ability smallholder farmers and institutions to improve their economic skills and abilities to manage projects like WRS, to define their wants and needs hence allow them to achieve sustainable livelihoods. Capacity building is an investment in people, institutions and practices that will together enable the district and communities to achieve their objectives.

The discussion is based on improving income of smallholder farmers through strengthening the WRS, but the system doesn't work effectively and efficiently without forgetting the production of cashew itself in large quality and quantity. Though Tanzania is currently undergoing major reforms in a bid to attain economic and social development, key documents such as the Tanzania Development vision 2025, poverty reduction strategy paper(PRSP), the Rural Development Policy(RDP), the Agricultural Sector Development Strategy (ASDS), the Agricultural Sector Development Programme framework and process document, the National Strategy for Growth and reduction of Poverty (NSGRP) popularly known as (MKUKUTA) in (kiswahili) and recently the Agricultural Sector Development Programme (ASDP) has been operationalized to guide the process, all these is based on structural reform in agriculture and strictly it is a paper work rather than physical means to assist smallholder farmers in the village level including cashewnut farmers, these strategies based on marketing of crops after smallholder farmers have been produced rather than assisting farmers to produce in large quantity and quality produce.

The current government stance and various changes challenges occurring both nationally and internationally. In the cashew industry, the Cashewnut Board of Tanzania considers utmost importance to chart out its future direction and develop strategies that allow it to play an effective national and international role as a regulator of the development of the cashew industry in Tanzania, However identification of cashew development interventions at field level is needed, this can be conducted and undertaken by the communities and local Government authorities who will set local priorities through the District Agricultural development plans and District Agricultural Development plans.

Strategies should be done to strengthen the production of cashew to the family level by implement transfer of cashew planting research technology to farmers this may create new cashew trees and uproot the old ones, increase supervision of farmer's compliance to instruct proper cashew farming, push for the privatized factories to rehabilitate and commerce processing, Increase farmer training in Modern cashew farming, Improve information distribution within stakeholders, create conducive environment to attract investors in the production of cashew especially in supplying of inputs, amendment of plant protection Act to improve competition in the distribution of farm inputs.

## **CHAPTER FIVE**

### **5.0 SUMMARY, CONCLUSION AND RECOMMENDATION**

#### **5.1 Introduction**

The Chapter includes short summary of the main findings in the study, conclusion, recommendation, implication of the findings, limitation of the study and lastly it gives out the suggested area for further study.

#### **5.2 Summary of the Main Findings**

The study revealed that despite of the fact that warehouse receipt system increased the price of cashew per kilogram from the average of Tshs 800/= to 1200/= for two years cashewnut seasons 2010/2011 and 2011/2012 but the income of the smallholder farmers remained dormant. The increment of the price by 50% fail to measure the improvement of income to smallholder farmers.

The warehouse receipt system operational guidelines released in 2006 to date comprises number of segments procedure in the system which in one way or the other add cost of smallholder cashewnut farmers while other stakeholders of the warehouse receipt system like banks, buyers and warehouse holders they are not affected by that costs to run the system, hence effectiveness of the warehouse receipt in the study area seen by banks of CRDB and NMB which gives out loans to smallholder holder farmers through their AMCOS but not cashewnut farmers themselves, competitions of these banks to obtain customers which are AMCOS to give them loans for buying cashew from farmers guarantee the type of leaders that can lead the AMCOS.

In other words banks needs leaders who opt to do with them business unlike their business counterparts hence at that situation causes chaos in those AMCOS's hence ineffectiveness of warehouse receipt system.

The study explored that the participation of cashewnut farmers to the warehouse receipt system is poor due to the fact that introduction of Warehouse receipt system emerged without proper preparations to the farmers, hence farmers they don't have knowledge on how the system goes about, and what are beneficiaries. Smallholder cashew farmers evaluate the warehouse receipt not theirs because it exclude farmers in overall operations of pricing which is the base of their income.

Ineffectiveness of warehouse receipt system in cashew is caused by some demographic variables like age, income and sex .Most of cashewnut farms are owned by people above the age of 50's and that people owned cashew farms through inheritance from their elders as a result production of cashew is low in quantity and quality, people at the age of 24-35 they don't have land to cultivate cashew instead they engaged in other economic activities within Tandahimba and outside District especially buying and selling of cashew outside the warehouse receipt system so called *Kangomba* also this age group is the one which took most of AMCOS's and lead them not for the interest to assist farmers in getting agricultural inputs but instead that AMCOS's to assist them in getting capital to run their income generating activities including buying and selling cashew outside warehouse receipt system, which cause income of producers of cashew to diminish.

The study revealed that the capacity of warehouse receipt system is still needed by smallholder farmers irrespective of small shortcomings present which seems to be invisible hand to put money in one hand and withdraw on the other hand, hence that shortfall should be uprooted.

### **5.3 Implications of the Findings**

The results of this study indicate that Warehouse receipt system its introduction in Agricultural market purposely to assist farmers to get loans from banks due to the fact that



agricultural sector seems to have obstacles in getting loans resulted by absence of collaterals. Presence of loans to smallholder farmers assist them in managing and controlling of price since at the harvest season when the supply is high the price of agricultural products tends to be low.

The consequences of the study shows that effectiveness of warehouse receipt system depends mostly the presences of loans from banks but the overall findings of the study revealed that banks are one of the beneficiaries in the Warehouse receipt system, hence its existence may bring out income to the banks at a greater extent, to ensure a successful warehouse receipt system, banks needs to be more involved in the system than simply giving loans based on the collateral presented.

The study implies that, in order to have effective and successful warehouse receipt system, an inventory credit program needs to incorporate other strategies like; Under annual price cycles and monitor market prices closely to remain knowledgeable about the real value of the cashew being stored, identify buyers early so that bank and the farmer are aware of the buyer's needs concerning quality and quantity when the season begins, ensure that the farmer handles the product appropriately, manage risk by taking in stocks only over a specified time period and within strict price guidelines, control quality of cashew, develop detailed sales agreements that include specifics on pricing, quality, point of delivery and contract duration, ensure clear and Complete internal communications and lastly Monitor government policies and actions in the warehouse receipt system.

The study implies some among many factors that are critically can improve income of smallholder farmers and other marginalized players through the warehouse receipt system in cashew; the existence of network of suitable warehouses in locations accessible to

depositors and potential off-takers, trusted collateral management systems that allow issuing of warehouse receipts by only credible operators with technical competence to store the requisite commodity as well as sufficient net worth and insurance to cover storage losses, government should continue to create a conducive environment and expedite the full operationalization of warehouse receipt act number 10 of 2005 to motivate and protect the parties involved in the warehouse receipt system.

The costs of running a warehouse receipt system can be significantly reduced by rehabilitating existing storage facilities and using local expertise, example engaging local collateral managers where they are available, farmers should be assisted in a holistic manner starting from the production stage (Value chain approach) to ensure that the quality and quantity of their produce is up to the required market standards.

#### **5.4 Conclusion**

The following conclusions can be drawn from the present study;

Warehouse receipt system is needed in improving the income of smallholder farmers, regardless of discrepancies present in its operations in management and implementation of rules and regulations of the system. The system involves number of participants likely farmers (depositors), Warehouse holders, banks and buyers. In the overall system depositors gets little income (Profit) than the rest despite the raise of price of cashew per kilo, this is brought about by number of reductions from the current price per kilo of cashew from smallholder farmers. In order for the system to be effective and efficient each participant in the warehouse receipt system should benefit but smallholder farmers should benefit at the greater extent than the rest to encourage in production process which is the key and corner stone of the all system. Existence of warehouse receipt system operated blindly in number of participants.

It shows that there is acute shortage of trained manpower in the warehousing sector, most warehouses are not having trained warehousemen and other technical staff. Moreover, they are not familiar with code of practices of scientific storage of agricultural and other commodities, graders, weigh men and staff engaged in sampling and physical analysis of agricultural and other commodities are not trained, therefore there is a need that all these warehousemen and other personnel should be imparted proper training in their respective field.

Despite the bank provide loans to farmers through their cooperative associations which come into contract with the bank was facing challenges which included; lack of permanently leadership in the association, most smallholder farmers are not organized hence pose difficulties not only to reach out to them but also to develop customized products for them, inadequate data necessary to develop index products. Most AMCOS keeps its records manually hence making it difficult to retrieve required data. There is currently no insurance premium financing for the smallholder agricultural insurance products.

There is a shortage of personnel who understand agricultural insurance concept and are able to explain it to the farmers. Most of the agents who sell insurance products have been unable to sell the agricultural insurance products mostly because they are not able to respond to the question raised by farmer. However, few farmers know of these financial and insurance products thus limiting their uptake and utilization. The interest rates ranges from 15 to 18% with other additional costs such as affront cash in some cases, processing fee, conveyance and insurance .These additional charges increase interest to accumulate figure which ranged between 21-24% hence making cost of money borrowed very high as a result reduced the income of smallholder farmers through their cooperative societies.

There is a need to develop effective mechanisms to increase the awareness and access of farmers to information on the financial products and services available in the market

provide space for the start of deal-making arrangements between farmers organizations and financial service providers. Encourage the development of financial services targeting farmers by sharing and create platforms to promote uptake of the innovative products.

### **5.5 Recommendation**

The study recommend that the beneficiaries of Warehouse receipt system in Tandahimba were mainly 90% large scale farmers, smallholder farmers organized into groups have limited 10% access to this innovation. This could be attributed to inadequate information sharing and in appropriate packaging of Warehouse receipt System facility and in addition, establishment of modern warehouse require heavy capital investment hence difficult to improve smallholder cashewnut income.

Moreover, it is imperative to organize smallholder farmers into association and built their capacity to engage collective action to manage and establish their own collection centers at strategic location in the village level, this will make the warehouse receipt effective and efficient. It is important for the government to set floor price as base to guide supply and demand forces in the open market. Innovative insurance packages are necessary to mitigate the above risks.

Quality standards especially moisture content mixed varieties, size of the cashewnut, weight, weather damage, foreign matter and knowledge of the system itself to the farmer hinder the effectiveness and hence adoption of Warehouse receipt system by smallholder farmer. There is need to create awareness, improve extension services and establishing a training center in the District to promote warehouse receipt system.

The study results revealed that increase smallholder farmer's participation in cashewnut banking empower them to take greater control over their local cashew supply and store for sell at appropriate time. If more cashew are stored and sold locally in the AMCOSs, rural

people will be more secure to serve transaction costs and weight loss of their cashew hence it will improve their income through pricing and weight loss. Therefore, it is imperative to develop warehouse receipt system policy and legal framework to guide and regulate the operations at all levels.

Therefore there is a need for regulatory agency to harmonize activities, infrastructural development in the rural areas through significant investments in some cases involving rehabilitation or building of storage facilities and capacity building involving a combination of trading and service provision ie the provision to the public of drying, cleaning, storage and other services for a fee to guarantee sustainability of the initiative.

There is a need to develop e-Warehouse receipt system to facilitate information sharing and reduce the cost of doing business. This will be a major motivating factor to the bank, the legitimate holder of warehouse receipts can be easily identified and the audit trail quickly checked. An effective electronic registry facilitates accurate documentation and transparent business transaction. Elaborate information system will facilitate trust building among the actors especially the banks.

The banks require that warehouse receipts must be legal document which is credible and acceptable to be used as tool to transact business. Banks must be involved at early stage in devising the scheme to ensure that they are satisfied with the enforceability of receipts in case of default to accommodate such risks, most banks will only loan a percentage of the current market value of the cashew stored hence reduce the income of smallholder farmers.

In order for warehouse receipt system to be more effective, farmers should be assisted in holistic manner starting from the production stage (value Chain Approach) to ensure that the quality and quantity of their produce is up to the required market standards. The costs of running a warehouse receipt system can be significantly reduced by rehabilitating existing

stage facilities and using local expertise for example engaging local collateral managers where they are available.

The Government should continue to create a conducive environment and expedite the full operationalization of the warehouse Act to motivate and protect the parties involved in the warehouse receipt.

## **5.6 Limitation of the study**

A number of caveats need to be noted regarding the present study;

### **5.6.1 Illiterate**

Difficulties occurred in the collection of data from household heads since 67% have purely illiteracy which means person cannot read or write in any capacity for all practical purpose also 39% of agricultural and Marketing Cooperative societies leaders, Which include secretaries and chairpersons have functional illiterate that means person can read and possibly write simple sentences with limited vocabulary, but cannot read or write well enough to deal with everyday requirements of life in their own society.

Authors use method of interrogation with the respondents before filled the questionnaires for himself that resulted to consume much time than expected.

### **5.6.2 Political ideologies**

The District is much more categories in to two parties in terms of politics, that is CCM and CUF, hence all practices including this research defined in that manner that it is the practical ideology of the ruling part. The author used much time to educate people within the study areas in order to reach its maximum needs.

## **5.7 Suggested area for further study**

This research has thrown up many questions in need of further investigation among them are; Is Warehouse receipt system final and conclusive in improving the Income of

smallholder farmers?, are there any truly successful and sustainable Warehouse receipt system in any cash crops in Tanzania, what are economies of Warehousing operations in Tanzania.

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## ANNEXURES

### QUESTIONNAIRE TO HEADS OF HOUSEHOLD

Enumerator.....

Questionnaire no.....

Date of interview.....

Respondent Name.....

#### 1.0 SOCIAL DEMOGRAPHIC INFORMATION

1 Household Location: District.....

Village.....

2.Sex of respondent: Male/Female

3.Age of respondent.....years

4.status of respondents 1)Head 2)Wife 3) son 4)daughter 5) Relative 6) Labourer

5.What are your sources of household income in order of importance

Source of income	Rank
On-farm	
Off-farm(specify)	
Gift	

Rank: 1= most important 2=important 3=least important

6.How many years have you spent at school?

7.Size of Household

Category	Number
Males 15 years and order	
Females 15 years and older	
Children younger than 15	

NB:Parent inclusive

8.Size of Farm land owner.....acres

9.Size of farm land under cultivation of cashew.....acres

10 Size of farmland inheritance from elders.....acres

## 2.0 AWARENESS AND PERCEPTION OF WRS

11.Does any member of your household belong to any farmer group or association

Yes.....No.....

12.If no go to no 17

13.Ifyes,what activities does the group address?.....

14.In what year did you join the group? Year.....

15.Why did or what made you join the group.....

16.Since you joined the group,what changes have you experienced in your household.....

17.Which Months do you normally send your cashew to the AMCOS.....

18.Where do you sell your cashew.....

19. In 2010/2011 cashew season how much (price) have you sold your cashew in the AMCOS.....

20. In 2011/2012 cashew season how much have you sold your cashew in the AMCOS.....

21. What problems do you face when selling your cashew.....

22. What means of transport do you use to transport your cashew from home (or storage) to the AMCOS

23. Where do you get information on the prevailing market price of Cashew.....

24. How do you market your cashew? 1) Individual 2) as a group 3) both

25. If individually, what are the advantages or disadvantages specify.....

26. If as a group, what are the advantage or disadvantages.....

27. What quantity of empty bags did you purchase in the cashew season 2010/2011 and 2011/2012

28. What are your handling costs per bag for 2010/2011 cashew season and 2011/2012 season

29. What cashew treatment costs per bag do you incur during 2010/2011 cashew season and 2011/2012 cashew season

### 3. TECHNICAL ASSISTANCE/ADVICE

30. Do you receive any type of technical assistance or advice towards WRS..... YES/NO

31. If Yes, describe the type of technical assistance you receive and who provides it.....

### 4. CREDIT

32. Do you receive any credit YES/NO

33. If yes, for what purpose.....

34. Which organization or who provides you with credit (Probe for banks, AMCOS or other informal means).....



35.What are the terms of payment of dept (Probe for interest rate,payment terms)

5.GENERAL

36 Is WRS in cashew Improve house hold income?

**Questionnaire for chairperson /secretaries of AMCOS**

1.SEX :MALE/FEMALE

2.Name of AMCOS.....

3.Location:Ward..... Village.....

4.Designation:Secretary/chairpeson.....

5.Do you know the WRS,how it operates YES/NO

If YES explain how.....

If No how dou you work on the system which you don't know.....

6.How many members do your AMCOS have.....

7How many tonnes of cashew do your AMCOS collected from farmers in 2010/2011 crop season.....

8.How many tonnes of cashew do your AMCOS collected from farmers in 2011/2012 crop season.....

9. Where have you got money that is used to buy cashew from farmers

a)government b) From campanies c) Individuals

10)How much have you got as loan from banks in all phases 2010/2011 and 2011/2011 ie

1<sup>st</sup> phase payment .....

2<sup>nd</sup> phase payment.....

Bonus payment.....

11 How much have each farmer got per kilo of cashew sold in AMCOS 2010/2011 and 2011/2012 crop season as described;

1<sup>st</sup> phase payment .....

2<sup>nd</sup> phase payment.....

Bonus payment.....

12 The money you have got in number 10 have your AMCOS signed any contract with the institution. YES/NO

13 If YES what is the interest rate of that contract per annum

14 Is there any other cost of loan apart from interest that your AMCOS incurred in the cropping seasons 2010/2011 and 2011/2012 YES/NO

15. If YES in the question 14 what are that costs mention.....

16. In the crop seasons 2010/2011 and 2011/2012 is there any amount of money deducted from the AMCOS'S account to pay the assumed shrinkage of cashew(loss of weight) to buyers of cashew YES /NO

17. If YES in number 16 what amount have you paid....., Is there any justification of the shrinkage from the TANECU about that shrinkage.

18 Is there any AMCOS leader attended any AUCTION made to sell cashew in crop seasons of 2010/2011 and 2011/2012 YES/NO

19. If YES in number 18 what is the role played by that leader in that auction, Explain.....

20. If YES in number 18 where he/she got information about that auction

21. Do you know the criteria on how ceiling price of cashew been calculated, Explain....

## QUESTIONNAIRE FOR CHAIRPERSON OF TANECU

1.What is the roles played by TANECU in Warehouse receipt system.....

3 In the crop seasons 2010/2011 and 2011/2012 what amount of money have you distributed in AMCOSs to buy cashew from farmers( Categorise 1<sup>ST</sup>phase,second and bonus payment)

4.In 2010/2011 and 2011/2012 how many tonnes of cashew have you collected from primary societies(AMCOSs) ie categories each AMCOS From Tandahimba District

5. In the crop seasons 2010/2011 and 2011/2012 ,What was the price of each kilo of cashew paid to the farmer

6.In the crop season of 2010/2011 and 2011/2012,what was the buying price of cashew paid by Companies through free auctions conducted.

6.In the crop seasons 2010/2011 and 2011/2012,what is the bonus paid to farmers in each AMCOS in Tandahimba

7.In the crop seasons 2010/2011 and 2011/2012,what amount of money deducted from each AMCOS to compasate buyers due to shrinkage(Weight loss of cashew )

7.what are benefits of WRS to:-

TANECU,Explain

Farmers,Explain

Buyers(companies)

8.What problems facing WRS from its inauguration in Tandahimba District

**QUESTIONNAIRE FOR PUBLIC SERVANTS**

*This can be filled by DALDO, Cooperative societies officers, DEDTandahimba*

Age ..... SEX:MALE/FEMALE

Designation.....

1.Do you know Ware house receipt system? YES/NO

If YES explain,

2.What roles do your office played to promote WRS

3.What problems faces smallholder farmers to use WRS

4.Do you know rules and regulations governing Warehouse receipt system YES/NO

5.If yes in Number 4 above explain

6.Is there any importance for the Government to intervene in the Warehouse receipt system especially in cashew,Explain

7.What are do and donts in the WRS inorder to Improve income of smallholder farmers

## QUESTIONNAIRE FOR VILLAGE LEADERS

*This should be filled by chairperson of the villages in the study areas and Village executive officers*

Age ..... Designation ..... Name of the village.....

SEX MALE/FEMALE

1.Are you a member of any Agricultural and Marketing cooperative society in your area?  
YES/NO

2.If no/yes in 1 above do you know the WRS in buying and selling of cashew

3. Is there any Levy collected by the village in the overall WRS in your village?YES/NO

4.If yes in 3 above,how much amount is deducted per one kilo of cashew sold in the AMCOS

5.For your opinions,what are the problems facing cashewnut farmers in the overall system of Warehouse receipt

6.In 2010/2011 and 2011/2012 cashew seasons what are other stakeholders engaged in buying and selling of cashew apart from the WRS

7.For your opinions who benefits more in the WRS in that order;Banks,farmers,companies,warehouseholders,TANECU,Explain

8.For your opinion what should be done to improve the income of smallholder cashewnutfarmers in the WRS,Explain

## CHECKLIST IN THE DISCUSSION CONDUCTED TOGETHER WITH STAKEHOLDERS

Names of organizations participated in Discussion

a)TANECU    b)UWAKOTA C) MPEWATA

Each organization participated in the discussion explained its roles in the relation of WRS  
The discursive outlines are

- 1.Is the Warehouse receipt ACT 10 of 2005 sufficient to assist smallholder cashewnut farmer to improve their income
- 2.What are the loopholes present in the warehouse receipt system that cause income of smallholder cashewnut farmers to be low
- 3.What should be done in the WRS to improve the income of smallholder cashewnut farmers