EAST AFRICA COMMUNITY (EAC) NON TARIFF BARRIERS AND THEIR EFFECTS ON TANZANIAN SMALL AND MEDIUM AGRO ENTERPRISES CROSS BORDER TRADE

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A DISSERTATION SUBMITTED IN PARTIAL FULFILMENT FOR THE REQUIREMENTS OF THE MASTER OF SCIENCE DEGREE IN AGRICULTURAL AND APPLIED ECONOMICS OF SOKOINE UNIVERSITY OF AGRICULTURE. MOROGORO, TANZANIA.

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ABSTRACT

This study was done to assess the East Africa Community (EAC) Non-Tariff Barriers (NTBs) and their effects on Tanzanian small and medium agro enterprises (SMAEs) engaged in EAC cross border trade. Specific objectives were; to describe the structure and characteristics of Tanzanian SMAEs; to examine determinants of Tanzanian SMAEs engagement in EAC cross border trade, to identify NTBs that affect Tanzanian SMAE's engaged in the EAC cross Border trade; and, to analyze the effect of identified NTBs on Tanzanian SMAEs trading in the EAC cross border trade. Both secondary and primary data were collected from Arusha, Mwanza, and Kagera. The number of respondents who comprised owners of SMAEs was 105 for those who were trading locally within the country, and 105 for those who were engaged in the EAC cross border trade. Agricultural goods selected were maize, beans and rice as major crops traded within the EAC region. Descriptive Statistics and Binary Logistic linear regression model were used to examine determinants and characteristics of Tanzania SMAEs engaged in EAC cross border trade. Costs and Benefit Analysis method was used to ascertain the projected Net Present Value between exporting agricultural products to EAC countries and trading similar products within the country , and to analyze the effect of NTBs. The results indicate that SMAEs engaged in EAC cross border trade are affected by 26 % of additional transport costs resulting from NTBs. However, there are potential benefits to be earned by SMAEs engaged in cross border trade if NTBs are reduced. Major recommendations are as follows; i) Government and private institutions should decentralize to help in registering and monitoring Agribusiness sector at regional and district level and help to abolish NTBs ii) Increase the pace of harmonizing the trading procedures and policies in the EAC region to assist in smoothing trade activities.

DECLARATION

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

_____ _____

Eliaza Mkuna Date

(M.Sc. Candidate)

The above declaration is confirmed;

_____ _____

Prof. Andrew E. Temu Date

(Supervisor)

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LIST OF ABBREVIATIONS AND ACRONYMS

AGOA	African Growth and Opportunity Act
AIDS	Acquired Immune Deficiency Syndrome
AU	African Union
BOT	Bank of Tanzania
BRELA	Business Registration and License Agency
CAADP	Comprehensive African Agriculture Development Program
CBA	Cost-Benefit Analysis
CEMAC	Central African Economic and Monetary Community
CFA	Clearing and Forwarding Agency
CMA	Common Monetary Area
COMESA	Common Market for Eastern and Southern Africa
CUTS	Consumer Unity and Trust Society
EABC	East Africa Business Council
EAC	East Africa Community
ECCAS	Economic Community of Central African States
ECOWAP	Ecowas Agricultural Policy
ECOWAS	Economic Community of Western African States
ESRF	Economic and Social Research Foundation
FANRPAN	Food Agriculture and Natural Resource Policy Analysis Network
FAO	Food and Agriculture Organization
FDI	Foreign Direct Investment
FEW NET	Famine Early Warning System Network
HIV	Human Immunodeficiency Virus

LPM	Linear Probability Model
NAFTA	North American Free Trade Agreement
NAMA	Negotiating Group on Market Access for Non-agricultural Products
NMC	National Milling Corporation
NPV	Net Present Value
NSRGRP	National Strategy for Growth and Reduction of Poverty
NTBs	Non-Tariff Barriers
OECD	Organisation for Economic Co-operation and Development
OLS	Ordinary Least Square
SACU	Southern African Customs union
SADC	Southern African Development Community
SEM	Spatial Equilibrium Model
SMAEs	Small and Medium Agro-Enterprises
SMEs	Small and Medium Enterprises
SMS	Short Message Service
SPS	Sanitary and Phyto-Sanitary
TAEC	Tanzania Atomic Energy Commission
TBT	Technical Barrier to Trade
TCCIA	Tanzania Chamber of Commerce Industry and Agriculture
TIN	Tax Identification Number
TRA	Tanzania Revenue Authority
UMA	Arab Maghrab Union
UNCTAD	United Nations Conference on Trade and Development
URT	United Republic of Tanzania
WFP	World Food Programme

CHAPTER ONE

1.0 INTRODUCTION

1.1 Background Information

Africa faces a number of development challenges and remains the poorest continent in the world despite her vast resources. For example, in the year 2007 the statistics shows the following trends that 34 countries out of 49 (or approximately 70%) poorest countries in the world are from Africa; almost half of the population in the continent lives in extreme poverty and hunger; HIV/AIDS prevalence is the highest in Africa as opposed to the rest of the world; many countries in the continent have been grappling with vicious circle of poverty, social-political conflict and underemployment; and that corruption is deep rooted in the continent and has had severe negative consequences on growth and development. Furthermore, Africa suffers from poor infrastructure, limited Foreign Direct Investment (FDI), and huge external debt problems (African Union Commission, 2007).

According to African Union Commission (2007), despite substantial progress made by some countries and regional economic communities in reducing and eliminating tariff and non-tariff barriers in the continent, intra-Africa trade figures have continued to dwindle unlike the case in other regions of the world. For instance in 2004, intra-African trade within African countries accounted for 9% of the total trade in 2003. On the other hand, trade within European countries accounted for 67% of the total volume of exports from Africa. The 9% intra-Africa trade in 2004 mainly came from the Southern African Development Community (SADC), the Economic Community of West African states (ECOWAS) and the Common Market for Eastern and Southern Africa (COMESA), which accounted for 12.9%, 12.6 % and 11.7%, respectively. Poor performance of intra-African trade can be explained by a number of factors, and these include the type of

production (which mainly consisted of raw materials and agricultural products); poor road infrastructure, institutional and financial weakness and poor trade regulations and policies among member states of African Union.

The East Africa Community (EAC), is an intergovernmental regional body comprising of five countries with a combined population of more than 130 million and average annual growth rate of 2.6% according to the facts and figures of the East Africa Community Secretariat (EAC, 2012).The main agenda of EAC is attainment of economic, social and political integration, this market provides the opportunity for the countries of Eastern African region to exchange their locally produced goods and services so as to scale up regional development and alleviate poverty. The EAC Development strategy (2001) identified non-tariff barriers (NTB's) related to administrative and bureaucratic inefficient, standards and technical requirements as the major impediments to trade within the region; other factors include poor infrastructure and communication networks. As for trade restrictions, the EAC committed itself to promoting projects and strategies that would lead to the elimination of these obstacles to trade (Hangi, 2010).

As part of the process of realizing full benefits of economic integration, in 2005, the EAC became a customs union, a free trade area with common external tariffs, but allowing member countries to use different import quotas. The main instrument for trade liberalization provided under the customs union is the elimination of tariffs and non-tariff barriers (NTB), within the partner states in order to increase economic efficiency and create political and cultural relationships among the partner states (Okumu *et al.*, 2010).However Africa has the lowest levels of formalized intra-regional trade in the world, estimated at only 10 %. Addressing this by building on current regional integration agendas to facilitate cross-border trade, develop regional infrastructure is important to

build a sustainable agri-food sector that is responsive to regional demand (European Union, 2013).

1.2 Problem Statement and Justification for the Study

Economists generally agree that NTBs are detrimental to regional trade. NTBs diminish the potential benefits that could be derived from the trade preferences offered through regional trading arrangements. These trade preference benefits include better access to partner country markets, increased export volumes and prices, improved economic welfare, creation of more jobs, and attainment of higher rapid economic growth. Moreover, NTBs are a serious impediment to the growth of intra-regional trade and the associated benefits (Karugia *et al*., 2009). In East African countries, the East African Business Council (EABC) study of (2005) identified a number of NTBs that exist and restrict trade among member countries. According to the EABC study, NTBs were widely prevalent among business enterprises in the region and within the government departments in all the EAC countries. NTBs and other business climatic factors that act as impediments towards the realization of smooth trade (and investment) in the region is the manifestation of the absence of free trade environment in the EAC region, notwithstanding the existence of Custom Union protocols signed by member states (Hangi, 2010).

EAC in realizing the effects of these barriers has attempted to remove NTBs; however, as Okumu *et al.* (2010) point out there are other NTBs that still exist in the EAC member states which include: un-standardized weighbridges, several road blocks, lack of recognition of individual country's standards, and the existence of several un-harmonized standards.

Nevertheless, Tanzania with the National Strategy for Growth and Reduction of Poverty (NSGRP) commonly known as MKUKUTA, has assigned SMEs a major role of scaling up participation of the informal sector in the growth and reduction of poverty. Accordingly, SMEs have been strengthened through various interventions and strategies such as SMEs development policy and plan, export credit Guarantee Fund for Cooperatives and other organizations handling farmers produce, Cooperatives Development Policy of 2003, microfinance, promotion/ establishment of incubator systems in helping the sustainable management of SMEs. Also putting in the high priority list the promotion and participation of SMEs in the growth and reduction of poverty (URT, 2005).

Through SME policy and strategies, Tanzania aims at promoting SME in building capacity of exporting SME's commodities to other neighbouring countries. However, despite these efforts, little has been done to assess the economic effect of the existing NTBs on Small and Medium Agro-Enterprises which are engaged in EAC cross border trade. With this study could be used in policy making by government and private sector in promoting Agribusiness trade in East Africa Community region.

1.3 Objectives

1.3.1Objectives of the study

The current study intends to assess the existing non-tariff barriers in the East African Community (EAC) and the effects of these barriers on small and medium agro-enterprises (SMAE'S) involved in the cross border trade in Tanzania.

1.3.2 Specific objectives

Specifically the study intends to

i. Describe the structure and characteristics of Tanzanian SMAEs and their efficacy in conducting EAC cross border trade.
ii. Examine determinants of Tanzanian Small and Medium Agro-enterprises-(SMAEs) engagement in the EAC cross border trade.
iii. Identify NTBs that affect Tanzanian Small and Medium Agro-(SMAE'S) enterprises which intend to conduct trade in the EAC market.
iv. Analyze the effect and potential impact of the identified NTBs on the Tanzanian SMAEs trading in the EAC market.

1.4 Hypotheses

i. The existing EAC NTBs have negatively influenced the Tanzanian SMAEs' cross border trade.
ii. Socio economic factors have negative influence on Tanzanian Small and Medium Agro-enterprises involved in EAC cross border trade

1.5 Outline of the Study

This study is comprised of five chapters. Chapter one contains background information of the subject, problem statement, objectives, and justification of the study. Chapter Two dwells on literature of Regional Integration and Agricultural Trade with a special focus on Africa and particularly EAC. Chapter Three is a presentation of the methods used and the procedures followed in the study, the Theoretical Framework and conceptual framework, data collection procedures the variables considered, data analysis procedures, and the reasons for choosing such methods of analysis. Chapter four presents the results of the study. The Chapter begins by highlighting the various socio economic characteristics of Tanzania SMAEs, the results of Binary Logistic Regression, the Cost-Benefit Analysis,

and T-Test as a means of comparing Transport Costs involved in cross border trade among EAC countries vis-à-vis trading locally the same agricultural goods within country. Chapter Five concludes the study and gives various recommendations for improving Tanzanian SMAEs engaged in EAC cross- Border Trade with the aim of taping the benefit resulting from the integration.

CHAPTER TWO

2.0 LITERATURE REVIEW

2.1 Organization of the Chapter

This chapter provides intensive literature review on Non-Tariffs Barriers, by starting with the working definitions that were used in this study, then it went further by stretching the theoretical underpinning of the study, overview process of regional integration, regional integration in Africa, brief history of the East African community, Tanzania cross border trade to other east Africa community countries, regional integration and agricultural trade in Africa, Empirical review of non-tariff barriers ,non-tariff barriers and agricultural trade implications, East African community initiatives on eliminating non-tariff barriers and finally the synthesis of the literature reviewed.

2.2 Working Definitions

2.2.1 Definition of small and medium agro enterprises

Small and Medium Enterprises are a form of business organization with different levels of the total number of employees, the total investment and sales turnover which, according to the SME's Policy of Tanzania (2002), are categorized into micro enterprises which either engage up to 4 people, (in most cases family members) or employ capital amounting up to Tshs.5.0 million. Majority of micro enterprises fall under the informal sector. Small enterprises are mostly formalized undertakings which either engage between 5 and 49 employees or have capital investment of between Tshs.5 million and Tshs.200 million. Medium enterprises which either employ between 50 and 99 people or use capital investment of from Tshs.200 million to Tshs.800 million. In this context, the study adopts the definition that Small and Medium Agro Enterprises (SMAEs) are the type of enterprises that deal with agricultural products from post harvesting to the market.

The types of employees involved in this kind of enterprises are temporary employees specifically used to load and unload bags of agricultural goods, packing, and driving trucks.

Table 1: Categories of SME's in Tanzania

Category	No of Employees	Capital investment in Machinery
Micro enterprise	1-4	Up to 5 mil.
Small enterprise	5-49	Above 5 mil. to 200 mil.
Medium enterprise	50-99	Above 200mil. to 800mil.
Large enterprise	100+	Above 800 mil.

Source: URT: Small and Medium Enterprises Development Policy. 2002

2.2.2 Definitions of Non-Tariff Barriers

The term 'Non-Tariff Barriers' came about as a result of the recognition that tariffs were being replaced by restrictive trade policies and other interventions, now widely called NTBs. Many NTBs are often justified on four main reasons: (1) safeguarding health, safety, and security of human beings, animals and plants against environmental pollution; (2) safeguarding national security (3) safeguarding revenue loss and (4) protecting home industries and consumers (Okumu *et al*., 2010). Beghin and Bureau (2001) define NTBs as "Any governmental device or practice other than a tariff which directly impedes the entry of imports into a country and which discriminates against imports, but does not apply with equal force on domestic production or distribution." In this study, NTBs are defined as government laws, regulations, policies or practices other than tariff, that obstruct Small and Medium Agro enterprises (SMAEs) in EAC cross border trade.

2.2.3 East Africa Community's market

East Africa Community has a combined population of more than 130 million and average annual growth rate of 2.6% according to the facts and figures of EAC (2012). This market provides an opportunity for the countries in the Eastern African region to exchange goods

and services which are produced in these countries so as to scale up regional development and alleviate poverty (Hangi, 2010).

2.2.4 East Africa Community cross border trade

According to the online Business Dictionary, cross border trade refers to the process of buying and selling goods and services between businesses in the neighbouring countries, with the seller being in one country and the buyer in another country. Therefore in this study, the term "Cross-Border Trade" refers to the process whereby Tanzanian SMAEs buy agricultural goods from Tanzania and sell them to EAC partner states or countries of Kenya and Uganda as a case study.

2.3 Theoretical Review of the Study

The economic theoretical framework on regional integration hinges on the assumption that 'productive efficiency' is enhanced if states undertake economic production in areas where they have a relative advantage over other areas, thus rationalizing costs and prices. However, the two main aspects of economic integration theories are Custom Union and the Optimal Currency Area (Anadi, 2005). This study focuses specifically on the Custom Union Theory as the functional theory for the whole study.

2.3.1 Optimal currency theory

This theory is commonly known as "An optimum currency area (OCA)" which can be defined as the optimal geographical area for a single currency, or for several currencies, whose exchange rates are irrevocably pegged. The single currency, or the pegged currencies, fluctuate jointly vis-à-vis other currencies. The borders of an OCA are defined by the sovereign countries which choose to participate in the currency area. Optimality is defined in terms of various OCA properties, such as price and wage flexibility, financial

integration, mobility of the factors of production including labour, financial market integration, the degree of economic openness, the diversification in production and consumption, similarities of inflation rates, and fiscal and political integration. These properties reduce the usefulness of nominal exchange rate adjustments within the currency area by either lessening the impact of some types of shocks or facilitating their adjustment thereafter. Countries forming a currency area expect the benefits to exceed the costs in the regional Integration (Mongelli, 2008).

A single currency implies a single central bank (with note-issuing powers) and therefore a potentially elastic supply of interregional means of payments. However in a currency area comprising more than one currency, the supply of inter- national means of payment is conditional upon the cooperation of many central banks; no central bank can expand its own liabilities much faster than other central banks without losing reserves and impairing convertibility. This means that there will be a major difference between adjustment within a currency area which has a single currency and a currency area involving more than one currency; in other words, there will be a difference between interregional adjustment and international adjustment even though the exchange rates, in the latter case, are fixed (Mundell, 1961). However, this theory is not realistic in explaining the East Africa Regional Integration at the present, because EAC is still undergoing several negotiations and the current protocol signed is based on Custom Union, and therefore the Common Market, the Monetary and Political federation are still under consideration by the partner states.

2.3.2 Customs union theory

Custom Union is a group of countries among which trade takes place freely without being restricted by barriers of tariffs or quotas on trade, and which adopts a common external tariff; and that all member countries impose the same tariffs on countries outside the customs union (Strielkowski, 2013).

The earliest theory of Customs Union was put forward by an economist Jacob Viner in 1950 in the book called “Custom Union issues”. The simple model of Customs Union, according to Viner was elimination of tariffs on imports from member countries, the adoption of a common external tariff on imports from the rest of the world, apportionment of customs revenue according to an agreed formula, pure competition in commodity and factor markets, factor mobility within countries but not between them, and no transportation costs. Others include the following tariffs are the only form of trade restrictions, prices reflect the opportunity costs of production, trade is balanced, and resources are fully employed. However, the ground-stones of Viner's theory of customs unions are concepts of trade diversion and trade creation effects of different arrangements of regional integration. Viners’ definition of these concepts was formulated in terms of trade flows. **Trade diversion** means a switch in trade from less expensive to more expensive producers. **Trade creation** means a switch in trade from more expensive to less expensive producers (Strielkowski, 2013).

According to Viner, , "*Customs unions are not important, and are unlikely to yield more economic benefit than harm, unless they are between sizable countries which practice substantial protection of substantially similar industries*" (1950) unless strict circumstances prevail (Hosny, 2013).

The main ingredients of regional economic integration, as indicated by the theory, include the removal of tariff and non-tariff barriers among member states, having a common external trade policy which initiates common external trade restrictions against non-members, initiating free movement of goods and services, as well as free movement of factors of production across national borders, harmonization of policies, unification of national monetary policies, and acceptance of a common currency. These happen in stages which include free trade area, customs union, common market, economic union and complete regional integration (Madyo, 2008).

However, as summarized by Rathumbu (2008), the rationale behind the establishment of regional integration agreements is that both the consumers and producers will benefit from such a union. The consumers have the choice of goods at lower prices which will have been brought about by economies of scale. In the absence of regional integration agreement, tariffs are imposed on imports and this means that the consumers are forced to consume the goods and services at higher than the prevailing world prices. Within regional economic communities, the removal of tariffs and non-tariff barriers (NTBs) enhances consumer welfare. The producers, on the other hand, would benefit through intra-industry trade in terms of which input costs of their production become cheaper.

2.4 An Overview of the Process of Regional Integration

Regional Economic Integration can best be defined as an agreement between groups of countries in a geographic region of reducing and ultimately removing tariff and non-tariff barriers and arrive at a free flow of goods, services, and factors of production between each other (Cole *et al*., 1999). Carbaugh (2009) as cited by Zhu (2010), identify six (6) stages of economic integration as follows.

2.4.1 Preferential trading area

A preferential trading area gives a preferential access to certain products from the participating countries. Tariffs are only reduced and not abolished at this first stage of economic integration. Although, the difference between preferential trading area and free-trade area may be unclear, the main goal of preferential trading area is become a free-trade area in accordance with the General Agreement on Tariffs and Trade. An example of a preferential trading area is the European Agreement: a treaty between the European Union and a non-European Union country that creates a framework for co-operation between them.

2.4.2 Free-trade area

A free-trade area is established by eliminating all tariffs and non-tariff barriersamong the trading nations under the agreement, with each member maintaining a set of trade restrictions. The agreement can be limited to a few sectors or cover all the aspects of international trade. It can also include formal mechanisms to resolve trade disputes. The North American Free Trade Agreement (NAFTA) which consists of Canada, Mexico, and the United States is an example of such an agreement.

2.4.3 Customs union

A customs union comprises of a free-trade area, and is an agreement among the participating nations to remove all tariffs and non-tariff trade barriers. The aim of establishing a customs union is to increase economic efficiency and build closer political/cultural ties among the member countries. A good example is Benelux which was formed in 1948 and consists of Belgium, the Netherlands, and Luxembourg; another example is the Andean Group which consists of Bolivia, Colombia, Ecuador, Peru and Venezuela.

2.4.4 Common market

A common market represents a major step towards a significant economic integration, elimination of all barriers to trade in goods among the member nations, and the adoption of a common external tariff. In addition, a common market allows free movement of goods and services within the market. Many benefits of a common market would be free full movement of factors of production between the member countries, and these factors of production become more efficiently allocated with an addition of increasing productivity. The European Union is a good example of an economic integration which achieved a status of a common market in 1992.

2.4.5 Economic and monetary union

The economic and monetary union is a union in which national, social, taxation, and fiscal policies are harmonized and administrated by supranational institution: an agreement is required to transfer economic sovereignty to a supranational authority. A final degree of economic union by the supranational monetary authority would be the unification of national monetary policies whichadministers the acceptance of a common currency.

2.4.6 Complete economic integration

A complete economic integration is a final stage of an economic integration. Here political integration is required, and therefore in order for this integration to be effective it is necessary for all the provinces to be at the same stage of economic cycle. In order for the government policy to be effectively maximized, it is best for the economic microcosms to be at the same stage of the economic cycle.

2.5 Regional Integration in Africa

According to Hartzenberg (2011), more efforts have been made by African governments towards attaining regional integration. Since independence, African governments have been embracing regional integration as an important component of their development strategies. Currently, there are a very large number of regional integration arrangements, several of which have significant membership overlaps. There are however few success stories. Regional integrations in Africa (RIA) are generally ambitious schemes with unrealistic time frames towards deeper integration and in some cases even political union. RIAs are usually arrangements among neighbouring countries.

The Regional Integration is essentially meant to help the region maximize the benefits of engaging in international trade and minimize the possible costs involved. This is usually pursued through a reduction of trade restrictions and market access (Olayiwola, 2013). As Maruping (2005) explains, here are different types of regional integration found in Africa as follows;

2.5.1 Central Africa

In Central Africa there is the Central African Economic and Monetary Community (CEMAC) which aims at becoming an economic union. The customs and monetary union and convergence have already been achieved. The Economic Community of Central African States (ECCAS) is also aimed at implementation of a free trade area with a view of eventually attaining a full economic union status.

2.5.2 Southern Africa

In Southern Africa, there is the Southern African Development Community (SADC) (plus Tanzania from East Africa), whose goal is a full economic cooperation that includes a

free trade area, and arrives at a monetary union. Mechanisms of cooperation on power, peace, and security have established. The Southern African Customs Union (SACU), which was formed in early 1900s, comprises Botswana, Lesotho, Namibia, South Africa and Swaziland. They also have a Common Monetary Area (CMA), which excludes only Botswana. The Customs Union stage has actually been achieved, on the ground.

2.5.3 North Africa

In North Africa, the Community of Sahel-Saharan States (CEN-SAD) has studied the feasibility of a free trade and pursues the selected sectoral integration. Arab Maghreb Union (AMU) in North Africa, which aims at achieving an economic union, has conventions relating to investment, payments, and transportation.

2.5.4 West Africa

In the west, Africa, there is the Economic Community of West African States (ECOWAS) and its Monetary Union (UEMOA) which intended to achieve an economic union through selected tariff reductions, macro-economic and monetary convergence. The union has harmonized business laws and also pursues peace and security issues.

2.6 A Brief History of the East African Community

“One people, one destiny” so runs the slogan of the East African Community (EAC), which was re-established in 2001.The history of regional cooperation in East Africa goes back to pre-colonial times. The first move towards cooperation between states were made in 1919. Kenya, Tanganyika and Uganda all of them under British administration formed a customs union. In 1967, the first East African Community was founded. The three member states of Kenya, Tanzania, and Uganda agreed to cooperate on a wide range of economic and social issues. The first EAC and the resultant extensive integration was

praised as a success story; however, the project collapsed in 1977. The failure of the first East African Community can be attributed to four main factors: firstly, lack of steering functions; secondly, the unequal distribution of benefits; thirdly, the integration was purely intergovernmental the i.e. interstatal –structure; and, fourthly, the irreconcilable differences of opinion between leading players, especially between the president of Uganda and Tanzania by then (Reith, and Boltz, 2011).

The new East African Community (EAC) is the regional intergovernmental organization of the Republics of Burundi, Kenya, Rwanda, Uganda and the United Republic of Tanzania which is headquartered in Arusha, Tanzania. The Treaty for the establishment of the East African Community was signed on 30th November 1999 and entered into force on 7th July 2000 following its ratification by the original 3 partner states of Kenya, Uganda, and Tanzania. The Republic of Rwanda and the Republic of Burundi acceded to the EAC Treaty on the 18th of June 2007 and became full Members of the Community with effect from 1st July 2007. The aims and objectives of the EAC are to widen and deepen co-operation in, among others, political, economic and social fields among the partner states, for their mutual benefit. In this respect, the EAC countries established a Customs Union in 2005 and have ever since been working towards the establishment of a Common Market, to be followed by a Monetary Union and ultimately a Political Federation of the East African States (AU, 2014).

The revived EAC goes beyond the earlier attempts at regional integration by aiming at closer and deeper integration among the partner states, through policies and programmes in the political, economic, social and cultural fields, research and technology, defence, security, legal and judicial affairs for their mutual benefit. In the economic sphere, the EAC seeks to focus on trade and investment, monetary and fiscal policy, and labour and

capital markets. To achieve these goals, the partner states have established a Customs Union as an entry point to a common market, a monetary union, and ultimately a political federation Mugisa *et al*. (2009).

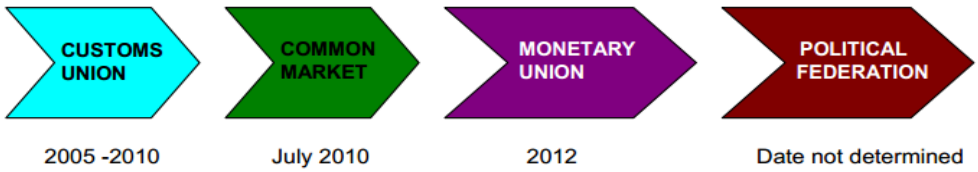


Figure 1: EAC Integration Stages and Timelines

Source: Mugisa *et al*. (2009)

However, a study by ESRF (2013) identified areas of particular concern in the new EAC integration processes as follows: (i) Non-Tariff Barriers (NTBs) which affect trade within the region; (ii) The Customs Union, whose formation has been slower than expected; (iii) The East African Monetary Union , an eventuality for which Tanzania has not yet set up a conducive environment to get engaged in the process (iv) The rush to create a Political Federation while some EAC members still face internal problems including political conflicts; and (v) Trade and movement of goods and people, with the trading arrangements being controlled by widely differing agencies.

2.7 Tanzania Cross Border Trade to other East Africa Community Countries

Tanzania's Trade to other East Africa Community (EAC) countries involves mainly agricultural commodities in either processed or raw form. The EAC trade statistics from 2011 to 2012 shows top 20 products exported to oth er East African Community countries in (in US $ Thousands) and the percentage change over the years from 2011 by which the first commodity was Oil-cake and other solid residues, whether grounded or not and other case in the form of pellet followed by Maize (EAC, 2014). This finding indicates that Tanzania exports more agricultural produce to the rest of the partner states.

Table 2: Total Exports from Tanzania to East African Community 2008-2012, (US $ Thousands)

Partner State	Country Region	2008	2009	2010	2011	2012
TZ	Kenya	**254763**	**194024**	**208438**	**222344**	**349838**
TZ	Burundi	20435	25071	36439	39742	54607
TZ	Uganda	**64572**	**99017**	**61021**	**52508**	**103232**
TZ	Rwanda	22669	16404	83903	96037	105839
	Total Export	362439	334516	389801	410631	613516

Source: EAC (2014)

Generally, Tanzania exports the largest volume of commodities to Kenya followed by Uganda, and this is due to the geographical location of the potential SMAEs engaged in EAC cross border trade which are found mostly in Arusha which is closer to Kenya and is a short distance to Nairobi where there are potential buyers as well.

2.8 Regional Integration and Agricultural Trade in Africa

Individual countries alone cannot address certain challenges and tap important opportunities which require regional integration and regional agricultural markets. This is also because regional agricultural markets are particularly important for African agriculture, since the national markets and institutions are too small to bring about all the needed transformation in agriculture. Consistency and coordination of different regional initiatives improve the chances of speeding up agricultural development in Africa. Regional integration and agricultural development, and in particular intra-African agricultural trade, offer a great potential for food security and pro-poor growth in Africa (Rampa, 2012).

Given the importance of regional integration in influencing agricultural trade in Africa, Rakotoarisoa (2011) observes that many initiatives in enhancing regional integration have been taken but not followed through. In 2008 for instance, African regional groupings

planned to move beyond regional borders to a full African economic integration by announcing the 'Africa Free Trade Zone'. Each year, regional groups such as the Southern Africa Development Community (SADC) and the Eastern African Community (EAC) announce more commitments towards deeper integration. Likewise, the Comprehensive African Agriculture Development Program (CAADP) has set as one of its goals the promotion of regional integration which would make agricultural sector more competitive. However, among the critical questions that the study aimed to answer was "***why have all these commitments and the many more before them not been followed through at a faster pace***?" The study was set to assume that the main stumbling block towards agriculture liberalization and economic integration is the fear among the partner states of losing both the revenues from the duties that are still imposed on certain products and the flexibility to use trade policy as a tool to address socio-economic or political challenges (e.g. protecting consumers against high food prices, and protecting infant industry). Perhaps this is one of the reasons why EAC partner states are still not in a position of catching up with the speed of regional economic growth especially on intra-Agricultural trade as one of the sectors that contribute the largest percentage of EAC regional Intra-trade.

On the other hand, as Olayiwola (2013) notes ECOWAS as one of the regional integration in West Africa faces a number of challenges in realizing a free movement of agricultural products in West African sub-region. These challenges include weak institutional frameworks, high costs of transportation, and poor communication and infrastructure facilities. One of the recommendations given was, regional dimension of agriculture in ECOWAS should significantly boost agricultural production or at least help sustain the momentum of growth already evident in the sector. And through the harmonized agricultural policy in the region called Ecowas Agricultural Policy (ECOWAP), this

initiative necessarily requires a regional free trade area so as to achieve the broad objectives of accessing an enlarged local market, realizing economies of scale, and strengthening bargaining positions in global trade negotiations.

FANRPAN (2003), in a study on trade policies and agricultural trade in SADC Region, proposes that among the major policy recommendations to be adopted so as to improve agricultural trade in the region was that policy makers should avoid frequent policy reversals caused by temporary imports and export bans coupled byan increase of the need of tariffs, and the need to eliminate licensing and reduce delays during border crossings. However, the study observes further that there is need to speed up policy harmonization and capitalize on regional economies of scale and coordinate market information systems to make information available on a regional wide basis. Moreover, there is need for harmonization in quality grading standards; seed certification; biosafety, sanitary, and phytosanitary regulations; and customs procedures. Also, the differences between intra-SADC bilateral agreements and regional policies be eliminated and that regional market information and commodity exchange should be established. Similar recommendations are also made in a study by Elbushra *et al*. (2011) on the role of COMESA in promoting intra-agricultural trade, the case of Sudan.

2.9 Empirical Review of Non-Tariff Barriers

2.9.1 Differences between non-tariff measures and non-tariff barriers

Non-Tariff Measures can defined as any policy measures other than tariffs that can impact trade flows according to Staiger (2012) while Beghin (2006) defined Non-tariff barriers (NTBs) as wide range of policy interventions other than border tariffs that affect trade of goods, services, and factors of production.

Okumu *et al*. (2010) explained the difference between these two by pointing out that, potential effect of Non-tariff Barriers (NTBs) makes them different from Non-tariff Measures (NTMs) as NTMs may not necessarily lead to negative impact on trade and related outcomes, but some authors equate NTBs to NTMs. NTBs are NTMs but not all NTMs are NTBs. NTMs that eventually have restrictive implications on goods traded in the world market are NTBs, but such NTMs tend to be government actions. For instance the study that equate NTBs and NTMs is by Carrère (2009) in the notes on detecting the effects of Non-Tariff Measures/Non-Tariff Barriers. UNCTAD (2013) described that in General the main difference is that NTMs comprise a wider set of measures than NTBs, which are generally intended only as discriminatory non-tariff measures imposed by Governments to favor domestic over foreign suppliers.

2.9.2 Global trend of Non-tariff Barriers

According to the World Trade Organization Report (2012) the concerns regarding to Non-tariff Barriers as part of Non-tariff Measures were first, NTMs/NTBs have acquired growing importance as tariffs have come down, whether through multilateral, preferential or unilateral action. Secondly, a clear trend has emerged over the years in which NTMs/NTBs are less about shielding producers from import competition and more about the attainment of a broad range of public policy objectives. You could say we are moving from protection to precaution. This tendency is discernible in practically every economy, as concerns over health, safety, environmental quality and other social imperatives gain prominence. Moreover, issues such as these take on a more central role in policy as economies develop and incomes grow. Thirdly, growing public policy concerns add significantly to the complex nature and variety of NTMs/NTBs deployed by governments, calling for an additional layer of analysis to tease out the trade effects of alternative approaches towards the attainment of declared policy goals. Fourthly, the

expansion of the public policy agenda means that NTMs/NTBs will not follow a path of diminishing relevance like tariffs have done. "*You could say we are moving from protection to precaution*" by Pascal Lamy, Director General WTO 2012.

Gillson (2011) pointed out that a recent and important trend in global trade has been the creation of regional trade agreements (RTAs). Regional integration efforts in Southern Africa, such as COMESA, SADC and SACU, have all sought to liberalize trade between countries so as to increase bilateral trade flows, diversify exports by overcoming the limits of small markets, and deepen specialization through achieving economies of scale. Harnessing regional integration more effectively, for both goods and services, would help all countries lower their costs base thereby enhancing global competitiveness.

2.9.3 An economic perspective on the use of non-tariff barriers

Governments employ non-tariff measures to increase national welfare and for "political economy" reasons. Non-tariff measures, such as TBT/SPS measures (including labelling), taxes and subsidies, are often the first-best policy instruments to achieve public policy objectives, including correcting market failures such as information asymmetries (where parties do not have the same information) or imperfect competition, and pursuing non-economic objectives, such as the protection of public health (WTO, 2012).

2.8.4 Non-tariff Barriers and Developing nations

There are numbers of researches documenting that developing countries still have an important market access agenda as a result of extensive tariff liberalization undertaken by developed and other developing economies (OECD, 2005). Fliess *et al*. (2005) reported that, trade with developed countries, customs and administrative procedures and technical barriers to trade (TBTs) emerge as the leading NTBs of concern to developing countries.

For trade among developing countries, technical barriers are less prominently reported. However, customs and administrative procedures also rank very high among reported concerns in the four components of analysis. Issues identified under this category of measures include difficulties relating to import licensing procedures and rules of origin and generally appear to be more pervasive in trade with other developing countries than with developed countries.

These two categories record the highest frequency of notified barriers in the Negotiating Group on Market Access for Non-agricultural Products (NAMA) analysis. TBTs also received considerable attention in the literature reviewed. In the analysis of disputes brought to the WTO, there are a considerable number of cases involving customs issues. In contrast, there is a much smaller number of cases pertaining to TBTs, reflecting perhaps the greater difficulty to legally challenge these measures (Fliess *et al*, 2005).

2.9.5 Quantification of Non-tariff Barriers

There are several methods of quantifying and analyzing the effect of Non-Tariff Barriers and these are explained below;

2.9.5.1 Frequency-type measures

This quantification is made by constructing a variety of measures that indicate the frequency of occurrence of NTBs. Such measures maybe weighted, or they may be weighted by imports or by production. The number of product categories subject to NTBs is then expressed as a percentage of the total number of product categories in each Harmonized System group. This is referred to as the Frequency Ratio (F). The Import Coverage Ratios (IC) are calculated by determining the value of imports of each commodity subject to NTBs, aggregating by applicable Harmonized System commodity

group, and expressing the value of imports covered as a percentage of total imports in the Harmonized System commodity group (Deardorf, 1997).

2.9.5.2 Price-comparison measures

This involves comparing the observed domestic price of the imported product covered by non-tariff barrier with its world price. If measured correctly, this gap or wedge could be used as an approximate measure of the extent to which domestic prices would fall if its trade were liberalized. These have been the basis of much of the empirical work that has been done on quantifying the effects of non-tariff barriers (PECC, 2000). In other words Deardorf (1997) noted that NTB can be gauged in terms of its impact on the domestic price in comparison to some reference price. Because the price impact is a general property of NTBs, such a price comparison can pick up the net effects of all NTBs that are present in a market, without it being necessary for the investigator to identify what those NTBs are.

2.9.5.3 Quantity-impact measures

This approach to the measurement of the quantity effects of NTBs is possible by using either a cross-commodity or a cross-country regression model to explain trade. With the objective of estimating what trade would have been in the absence of NTBs and to compare this to the trade that actually does occur. To do so requires a satisfactory model of the determinants of trade, as well as data covering a sufficient variety of trading situations. The latter is needed in order to identify, or extrapolate to, a situation in which trade is at least approximately free (Deardorf, 1997).

2.9.5.4 Risk assessment approaches

Risk assessment approaches combined with scientific knowledge can contribute to gauging a subset of NTBs, especially safety and SPS standards and regulations. These approaches can contribute to assessing the welfare effects and the potential protectionism of these types of NTBs (Beghin, 2006).

2.9.5.5 Cost and benefit analysis

Since NTMs/NTBs do not necessarily embody the economic inefficiencies that are associated with classical trade barriers, it is not always the case that the trade impacts of regulations are inefficient, or that removal of associated non-tariff measures/barriers that affect trade would achieve efficiency gains that would exceed the losses from weaker regulation. For this reason, specific NTMs/NTBs are often analyzed in a cost–benefit framework. In practice, the traditional cost–benefit framework expands the analysis to cover not only one cost or benefit associated to the presence of the NTMs or NTBs, but also those associated with not having the measure or barriers in place (Fugazza, 2013).

2.9.5.6 Gravity model approach

The gravity equation model has been widely used in the international trade literature to evaluate various trade-related policies. It explains the bilateral trade flow by the sizes of the trading countries and other variables that affect the costs of trading between the two countries (such as distance, import tariffs, colonial tie, and adjacency). A natural extension of the gravity equation model to the policy analysis of the NTMs and NTBs is to include the NTM/NTB variable of interest as an additional explanatory variable (Xiong, 2012). Other variables included in the Gravity model as pointed by other studies are such as Gross Domestic Products, Language, per capita income and population of the two countries (Tinbergen, 1962).

2.9.5.7 Computable general equilibrium model

Supply-shifts effects are of particular relevance to technical regulations (TBTs) and sanitary and phytosanitary (SPS) measures as part of NTBs. Demand-shift effects can be identified for any sort of technical regulation. The protection effect of NTBs is the most immediate candidate for assessment in a Computable General Equilibrium model, provided that the correct impact estimates are available. Protection effects are usually assessed at the border. These border effects generate a wedge either between the world price and the domestic price in the importing country or between the world price and the domestic price in the exporting country (Fugazza, 2008).

2.9.5.8 Partial equilibrium model

A partial equilibrium model, as the one underlying the graphical analysis used here, focuses only on one part or sector of the economy assuming that the impact of that sector on the rest of the economy and vice versa are either non-existent or small (Fugazza, 2013). The partial equilibrium model is a simple means of assessing the elimination of tariffs between Member States. The model provides an estimate of the trade, revenue and welfare effects of tariff reform by clearing the market (equating supply and demand) for each product at the new import price (that following the tariff reform). The effect of tariff reform is assessed at the product level and is estimated independently of reductions to other tariffs in the same economy, or tariff reform undertaken in other economies (Spence, 2013). Partial equilibrium model can also combined by Gravity Model approach to determine the welfare impact of NTBs (Disdier and Marette, 2010).

2.9.5.9 Survey based approach

Survey-based methods are useful when other sources of information are lacking. Combined with interviews, they have also brought considerable light on the important issue of barriers. Surveys can also be designed to provide some information (such as ranking the importance of the measures or barriers on a scale) that can be used in econometric studies. Another useful feature of the survey-based approaches is the ability to identify, diffuse and hardly measurable barriers, such as the administrative ones. Survey-based methods also show that the regulations that are of more concern for the industry are not always those that economists would have thought of, and perhaps attempted to include in their models (Beghin, 2001).

2.10 Non-Tariff Barriers and Agricultural Trade Implications

Karugia *et al*. (2009) in their study on maize and beef trade in the EAC identify the existing non-tariff barriers (NTBs) on maize and beef trade and quantify their impact on trade and welfare of EAC citizens using a Spatial Equilibrium Model (SEM). The data on NTBs were collected from traders and transporters of maize and beef cattle in East Africa. Roadblock checks, bribes and custom rules and procedures were identified as the main NTBs to trade in EAC. The SEM model shows that a 50% reduction of the cost of NTBs, or their complete elimination would improve social welfare in EAC. The study recommends the following to be done: removal of the NTBs; improvement of efficiency in administrative procedures; and establishment of a monitoring system to track the effectiveness of the implemented initiatives to remove barriers to trade.

However in another study, Okumu *et al.* (2010) examined the non-tariff barriers in EAC customs union and their implications on trade between Uganda and other EAC countries. The study established that there are several NTBs which still exist and some have

persisted for a longer time than expected. The NTBs that have persisted for more than three years include a long list of customs documentation requirements, cumbersome formalities, and limited testing and certification arrangements. Other NTBs that still exist include: un-standardized weighbridges; several road blocks; lack of recognition of individual country's standards; and the existence of several un-harmonized standards. The simulation results of spatial equilibrium model of maize trade with and without NTBs from the study show that at the EAC level, there are positive production, trade and welfare implications attributable to the elimination of NTBs in intra-regional maize trade.

Another series of EAC trade studies (Ihiga 2007; Mmasi and Ihiga 2007; Tumuhimbise and Ihiga 2007) also report some major NTBs that include customs and administrative entry procedures barriers; sanitary and phytosanitary measures; technical barriers to trade, standards that are not easy to comply, inspection time spent, un-harmonized procedures for issuance of certification and other distribution related obstacles. Generally, most of the studies done on NTBs in EAC trade show that NTBs restrict trade among the member states.

2.10 East African Community Initiatives on Eliminating Non-Tariff Barriers

The elimination of Non-Tariff Barriers (NTBs) is carried out in accordance with the Treaty for the establishment of East African Community (EAC) which outlaws the imposition of NTBs on Intra-EAC Trade. The EAC Customs Union Protocal which was signed on 2nd March 2004 also outlaws the imposition of NTBs on Intra-EAC trade and provides for the development of EAC Mechanism to identify, monitor, and remove NTBs. This was also coupled with EAC time bound programme on the elimination of NTBs which is up dated time to time (EAC, 2012).

According to EAC (2006), the mechanism for the elimination of Non-Tariff Barriers is such that any new trade laws, regulations, rules and procedures that may be introduced in the future course of EAC trade would be recorded by businesses whenever the enforcement or application of such requirements results into a negative impact.

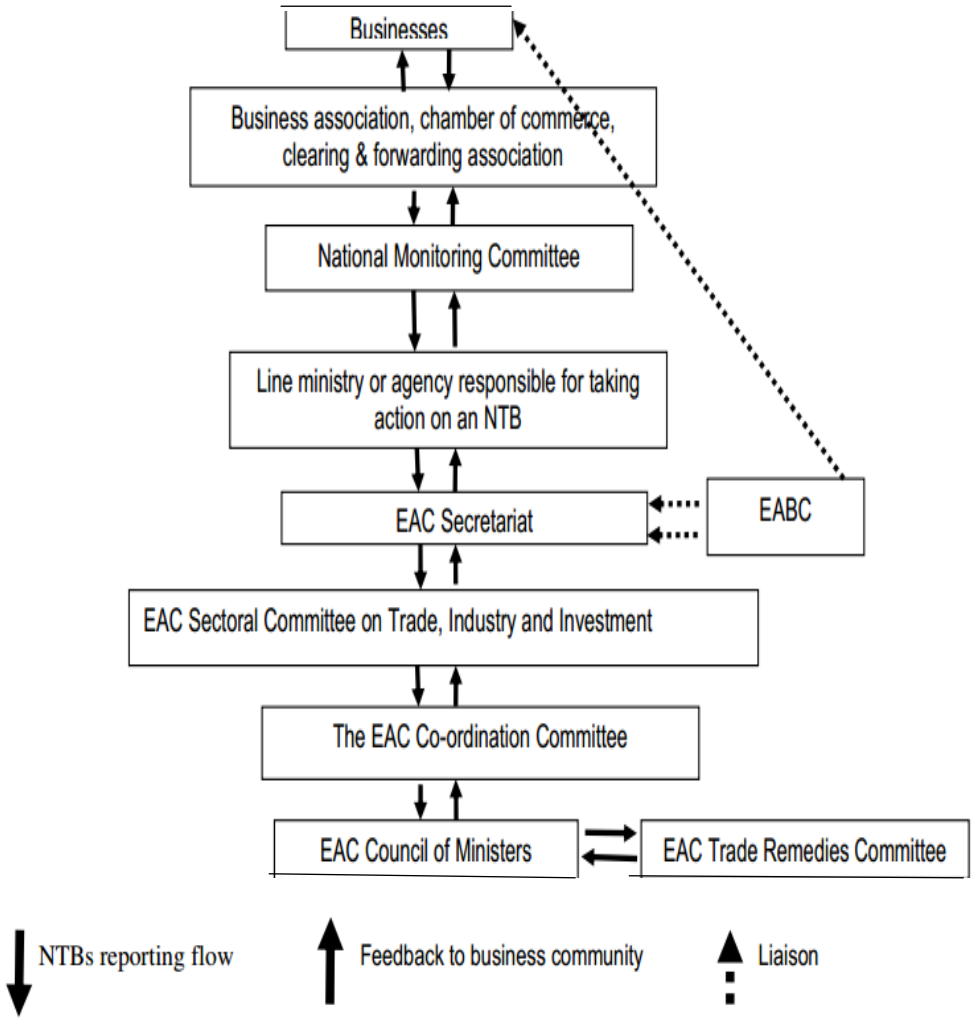


Figure 2: Organ gram for reporting NTBs

Source: EAC (2006)

Truck drivers, and clearing and forwarding agents would record such NTBs to their company heads using the following institutional set the company would verify the validity of the cases reported by their drivers, and clearing and forwarding agents, estimate the value and volume of business lost in the process of complying with trade related requirement, prepare a report of such cases and forward copies to Line Ministry or agency in charge of enforcing the respective NTB for appropriate action, and to Business association/ Chamber of commerce for information purposes and to facilitate monitoring progress of the elimination process. In this study, Tanzania Chamber of Commerce Industry and Agriculture was used to obtain the reported cases affecting Tanzania SMAEs; and the National Monitoring Committee (NMC) was used for information and to facilitate monitoring progress of elimination process.

2.11 Synthesis of the Literature Reviewed

From the Literature reviewed in this study, it has been noted that over time, Africa as a continent has tried to build its economy through regional integration arrangements so as to speed up the economy Growth. Agricultural goods are among the major commodities involved in intra-trade activities in Africa due to the fact that agriculture is the main economic activity in many countries in Africa. With given various methods of quantifying non-tariff barriers (NTBs) it was found that NTBs in Africa affect agricultural trade in many cases particularly on welfare implications attributed by NTBs.

Furthermore there are still many challenges to address in attaining economic growth through regional integrations. Some of the challenges noted include weak institutional frameworks, high transportation costs, poor communication and infrastructure facilities, and same countries engaging in several regional integrations with overlapping goals. Other challenges include policy reversals particularly on import and export ban which

cause the trade of agricultural goods to be sometimes unpredictable. Among, the major recommendations which are given to address these challenges include policy harmonization and capitalization on regional economies of scale as well as coordination of market information systems to make information available on a regional wide basis. These challenges and the recommendations provided in the literatures appear to be more realistic. This is because the issue of harmonization of many policies by EAC partner states is still a problem. Thus with the necessary political willing, harmonization of agricultural policies and removal of NTBs in the region is likely to pave the way towards stronger economic growth in the region. Also various studies reviewed were none SMAEs in specific which gave a narrow way of explaining the difficulties and challenges faced by SMAEs, with this study, the Survey method was the best approach which was used to find out more about SMAEs in specific.

CHAPTER THREE

3.0 METHODOLOGY

3.1 Conceptual Framework

Based on the theories on economic regional integration explained as the foundation of this study, the removal of tariffs and non-tariff barriers (NTBs) will improve producer welfare and benefits as stipulated by Custom Union Theory and this can be conceptualized as follow.

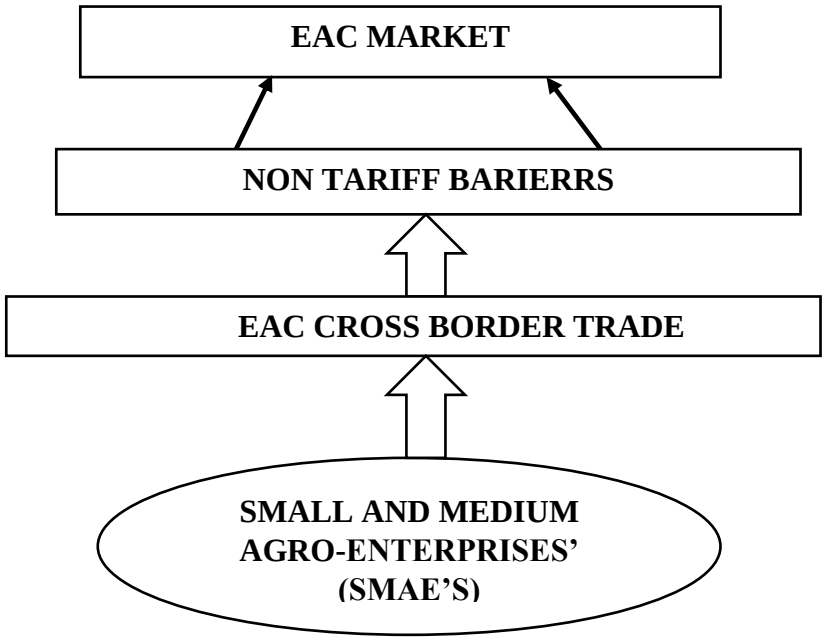


Figure 3: Conceptual Framework

From Fig. 3 above on the conceptual framework, it can be observed that EAC regional trade offers potential markets with a large number of buyers involved in the cross border trade. There is also, the availability of market under the assumption of rationality that will encourage small and medium Agro-enterprises in Tanzania to be engaged in cross border trade. However, there are many factors which may influence cross border trade in the EAC market, and these include price of agricultural goods, experience, market information and the level of education. Given the factors which influence Cross Border

Trade participation, given the EAC custom Union Treaty that was signed in 2005 to allow free Trade and removal of all barriers, it was assumed that Non-Tariff barriers may hinder Tanzanian SMAEs cross border trade in the EAC market. So the study analyze the characteristics of Small and Medium Agro-enterprises in Tanzania, followed by identifying the factors which influence EAC cross border trade, and lastly the effects of Non-tariff barriers (NTBs) on EAC cross border trade.

3.2 Research Design

This study adopted Cross-Sectional research design by which data were gathered from the study area in two different rounds, the first round was done from February to March 2014 as a pre survey, and the second round was done from March to May 2014. The two rounds Baseline survey was adopted due to the nature of agricultural trade in the study area whereby it was difficult to find SMAEs owners as their availability was seasonal depending on the availability of different agricultural goods to be traded.

3.3 Study Area

The study area included two regions of Arusha and Mwanza. Arusha is located in3.3667° S, 36.6833° E in North of Tanzania, and Mwanza is located 2.5167° S, 32.9000° E. These regions account for a large number of Small and Medium Agro-Enterprises (SMAEs) engaging in East Africa Community (EAC) cross border trade. This is particularly because these regions are in close proximity with the other EAC trading partners such as Uganda and Kenya. Furthermore, these regions had the most well established business enterprises; this is according to the Tanzania Integrated Business Survey (2010). However, in tracing the trading routes Kagera was also included because there are SMAEs trade across Mutukula Border from Mwanza to Uganda.

3.3.1 Small and medium agro-enterprises trade to EAC countries in Arusha

In Arusha Tanzania most Small and Medium Agro-Enterprises (SMAEs) are trading various agricultural commodities such as maize, horticultural, beans, peas of different kinds such as pigeon pea. The major local markets for the SMAEs engaged in EAC cross border trade in Arusha city are Mbauda, Kisongo, Crocon (NMC), Ngaramtoni, and Mirongoine Majengo. In most cases, the SMAEs owners depend on seasonal variations of different commodities in a year. Based on the baseline survey, from these identified markets, SMAEs in Arusha use the route to Namanga border and then direct to some of the major markets for Maize and Beans in Nairobi Kenya such as Nyamakima, Marikiti and Thika (see Fig. 4 and 5).

3.3.2 Small and medium agro-enterprises trade to EAC countries in Mwanza

The volume of agricultural goods exported to Uganda from Mwanza is very low as compared to volume of agricultural goods exported to Kenya from Arusha. However, Mwanza trades mostly on rice which is brought from the neighbouring regions of Shinyanga and Tabora. Few of the SMAEs owners interviewed reported to be exporting to Uganda through either by Lake Victoria via South Port harbour in Mwanza and directly to Uganda, or by road which passes through Kagera Region to Mutukula Border between Tanzania and Uganda (Fig. 4 and Fig. 6).

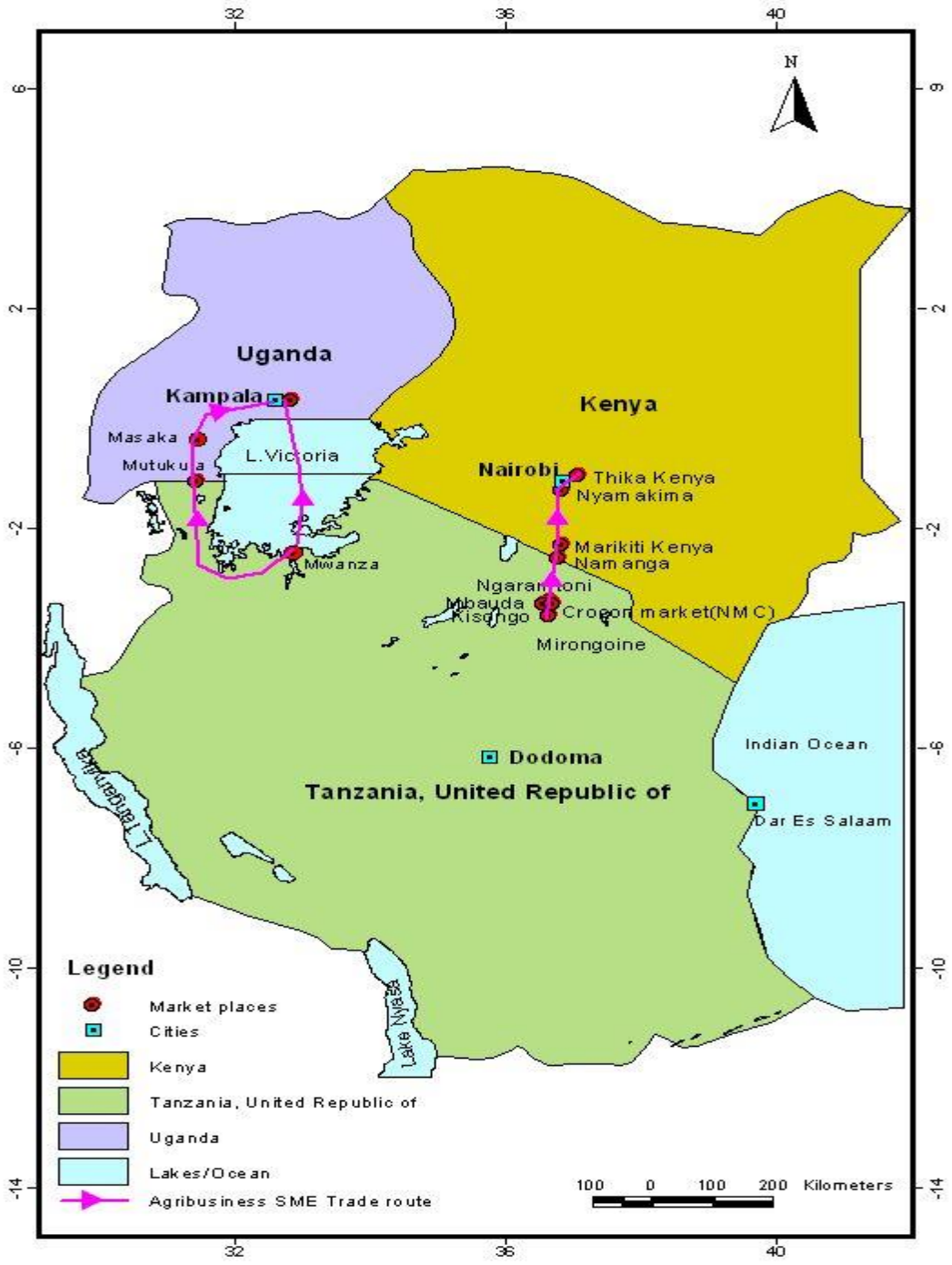


Figure 4: Tanzania SMAEs Trade routes to EAC countries

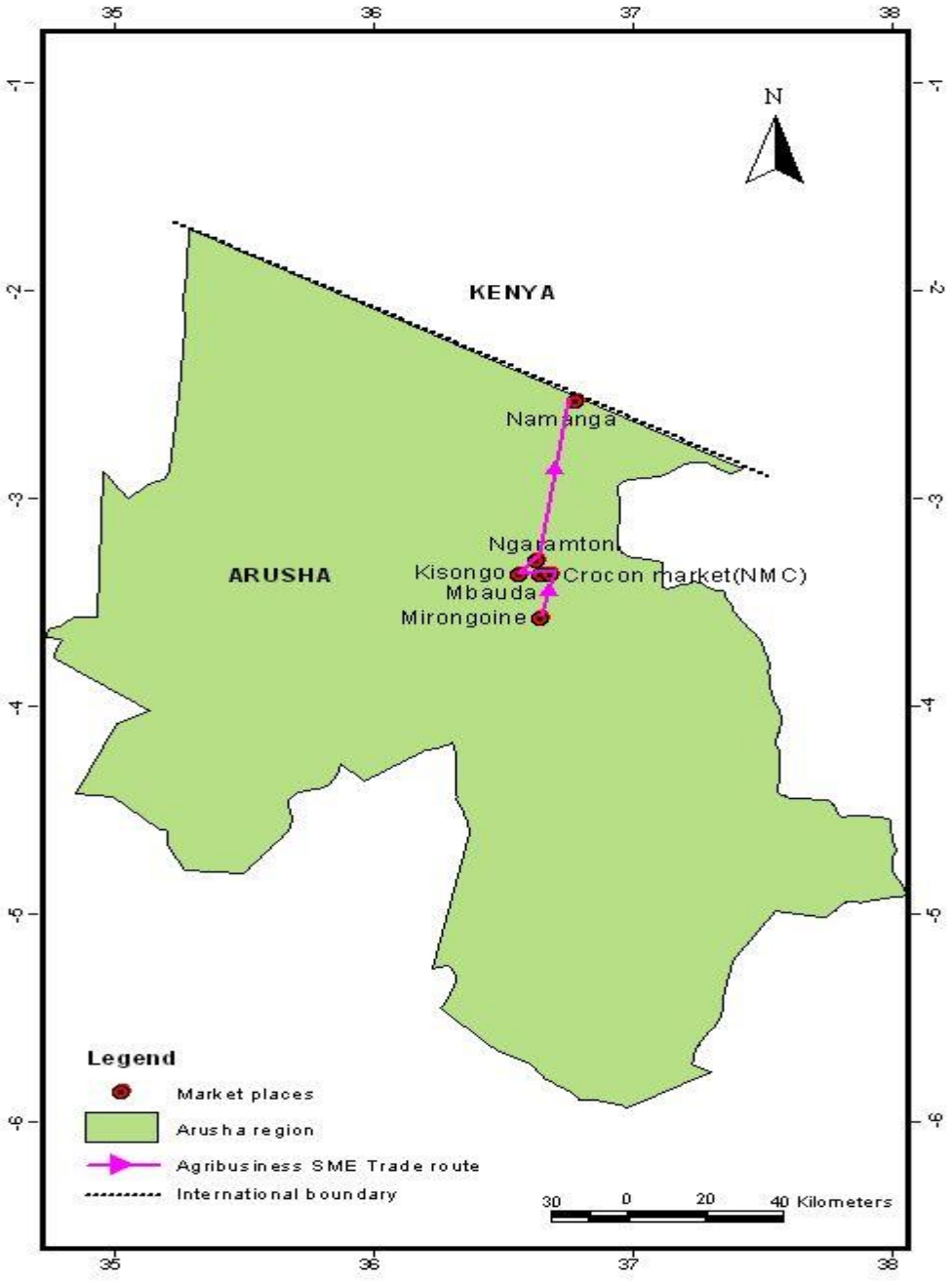


Figure 5: Tanzania SMAEs Trade routes from Arusha to Namanga Border

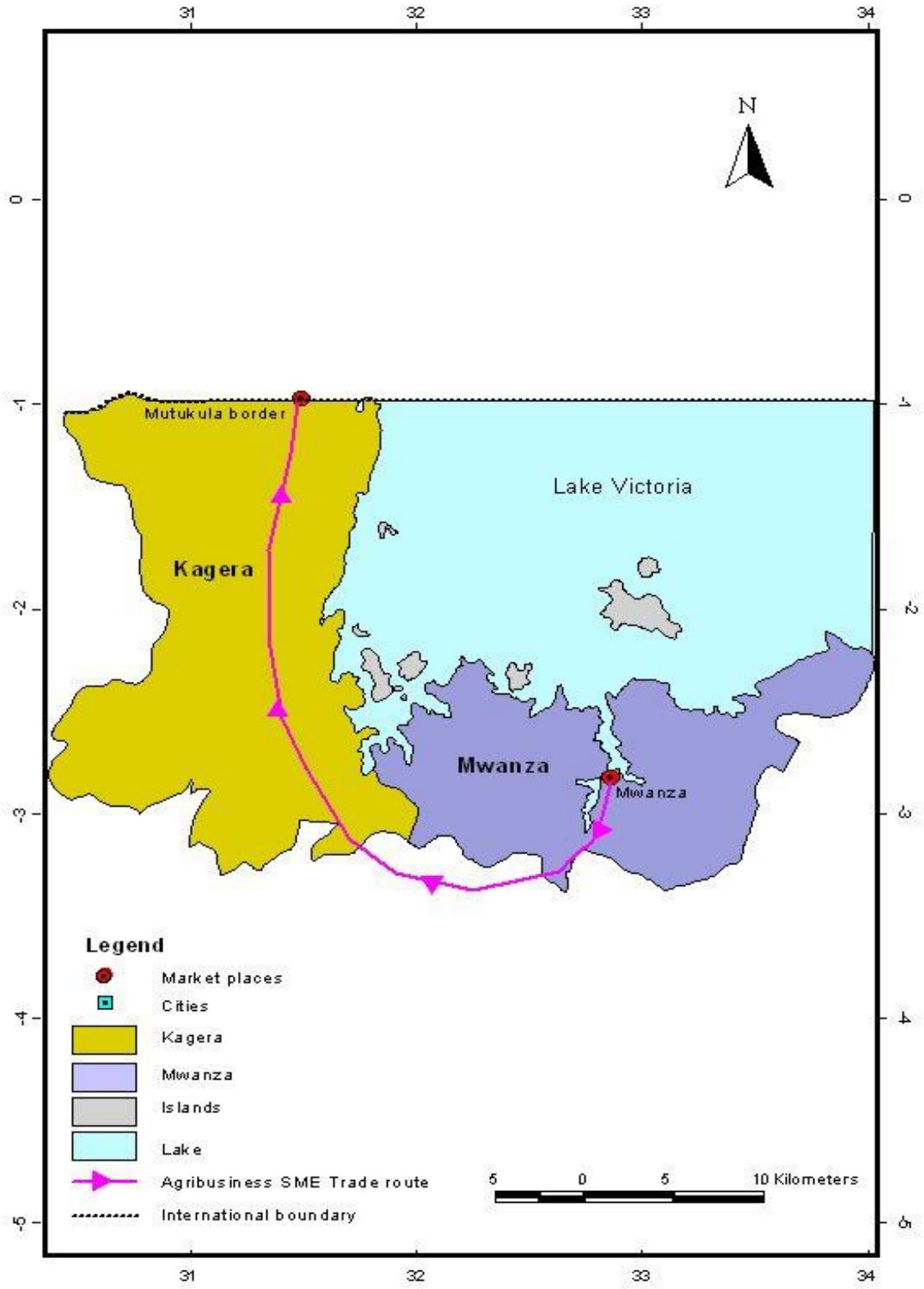


Figure 6: Tanzania SMAEs Trade routes from Mwanza to Uganda

3.4 Data Collection

Small and Medium Agro-enterprises who export agricultural goods to EAC market were randomly selected in each of the markets visited in Mwanza and Arusha. Other sources of data accessed include TCCIA list in both Mwanza and Arusha, Truck drivers, Clearing Agents who were selected from border points, Government and private institutions which are involved in EAC cross border trade from Tanzania.

3.5 Methods of Data Collection

3.5.1 Primary data

Primary data were collected through a detailed field survey of small and medium agro-enterprises owners. Different questionnaires were used for different sets of respondents which included SMAEs owners, truck drivers, clearing agents, and customs officers. The data collected were based on the characteristics, quantity, value, and mode of transportation of the exports. Additional information collected includes financial charges and unrelated procedural practices which were therefore considered as NTBs to trade.

3.5.2 Secondary data

Secondary data were collected from several sources including East Africa Business Council (EABC) office in Arusha; Tanzania Chamber of Commerce Industry and Trade (TCCIA) in Arusha, Mwanza, and Dar es Salaam; Trade Mark office in Arusha; Tanzania Commission for Atomic Energy headquarter in Arusha which is issuing certificates of radioactivity analysis.

3.6 Sampling Procedure and Sample Size

A purposive sampling technique was used to select specific markets for Small and Medium Agro-Enterprises (SMAEs) in the study area. This was followed by simple

random sampling to obtain the number of respondents who own SMAEs after pre survey of the study area. The targeted population included Small and Medium Agro-enterprises in Arusha and who trade with member countries in EAC and Small and Medium Agro-enterprises who trade locally within the country. The latter group was selected for comparison purposes. The sample size was 210, comprising 105 of Small and Medium Agro-enterprises engaged in EAC cross border Trade, and 105 Small and Medium Agro-enterprises who trade the same agricultural goods locally within the country. The sample was chosen basing on convenience and representativeness of the population. This is because it was difficult to get the population of all SMAEs dealing with Agricultural goods trade so as to select the sample size as majority are not registered.

3.7 Choice of the Agricultural Goods Included in the Study

At least three million metric tons of staple food commodities were traded in 2013 as opposed to 2.8 million metric tons traded in 2012. Maize, rice, beans and sorghum represented 72% of the trade and these agricultural commodities take the largest share of agricultural commodities traded in the East Africa region as shown in Fig. 7 in page 53 (Food Security and Nutrition Working Group, 2014).

3.8 Non-Tariff Barriers Short Message Service and Online Reporting and Monitoring Mechanism Project Database

To identify Non-Tariff Barriers (NTBs) affecting Tanzanian small and medium agro enterprises in EAC cross border, the study used observation in the field survey and data obtained from Tanzania Chamber of Commerce Industry and Agriculture (TCCIA) headquarter in Dar es Salaam, and much of the data were accessed from the database of the Non-Tariff Barriers (NTBS) Short Message Service (SMS) and Online reporting and monitoring Mechanism project. The main objective of NTBs, SMS, Online Reporting,

and monitoring mechanisms is to simplify the reporting, monitoring and elimination of NTBs. The targeted users of the system comprise the business community, ministries and government agencies, private sector organizations, civil society organizations, and researchers among others.

The system is computer based whereby users can report NTB by sending a message through a specified code (15539), and the system acknowledges the receipt and provides the sender with a tracking code. Through the system, it is also possible to report NTB online by logging onto a registered account. The reporting system enables the coordinator to receive NTB on time and work with the responsible agencies to ensure that the problem is addressed (TCCIA, 2013).Therefore, from the main server the study obtained statistics of up to date reported cases of NTBS originating from Tanzania and other EAC countries but affecting Tanzania. The information were then compared with the data obtained from the study. The information obtained covers the period up to May 2014.

3.9 Computational of Additional Transport Costs Attributed by Non-Tariff Barriers in East Africa Community Cross Border Trade by Tanzania's Small and Medium Agro-Enterprises

The study used additional transport costs caused by Non-Tariff Barriers (NTBs) as a proxy for NTBs. The additional transport costs involved in the East Africa Community (EAC) cross border trade was based on observations and interviews with truck drivers, clearing and forwarding agents and calculations of the specific added costs on transport in EAC cross border trade as compared to trading locally within the country. These calculations involved determining the costs per bag in EAC cross border trade using a truck of 16 Tons with the capacity of 160 bags of either maize or beans of 100Kg each

bag. The costs were analysed to find out the attributes involved in total transport cost per bag and this is explained in Chapter four.

3.10 Analytical Framework

3.10.1 Logistic regression analysis

The study used the logistic regression model to examine determinants of market participation of Small and Medium Agro-enterprises (SMAEs) in Tanzania in the EAC market. The model was adopted due to the fact that the dependent variable was binary which means that the variable stands for whether or not the SMAEs will participate in EAC cross border trade. Logistic regression model was based on the assumption that the random component of the response follows a binomial distribution and the logistic distribution of the error term (Liao, 1994). However, the fact that the dependent variable is binary made it more appropriate to adopt Logistic regression model instead of Linear Probability model (LPM). This is because the latter model has several problems, such as (1) non-normality of u_i , (2) heteroscedasticity of u_i , (3) possibility of $\hat{Y}$ lying outside the 0–1 range, and (4) the generally lower R^2 values (Gujarat, 2004).

3.10.1.1 Model specification

The model was estimated using maximum likelihood estimation method because as Green (1993) observes, maximum likelihood estimator is more efficient than OLS. As adopted from Gujarat (2004), the derivation of a Logistic linear regression may be as follow:

The Market participation can be represented as,

$$P_i = E(Y = 1/X) = \frac{1}{1 + e^{-\left(\alpha + \sum B_i X_i + \mu\right)}} \quad \text{.....(1)}$$

Where Y=1 means SMAEs will participate in EAC market, X_i are the factors which will determine EAC market participation by SMAEs; and B_i are the parameters/coefficients of these factors.

For simplification, the equation (i) may be written as follows,

$$P_i = E(Y = 1/X) = \frac{1}{1+e^{-(Z_i)}} = \frac{e^Z}{1+e^Z} \quad \text{.....(2)}$$

Where $Z = \alpha + \sum B_i X_i + \mu$ .....(3)

Equation (ii) represents what is known as the (cumulative) logistic distribution function.

If P_i is the probability of participating in EAC market by SMAEs, in equation (ii), the probability of not participating will be given as $(1 - P_i)$.

$$1 - P_i = 1 - \frac{1}{1+e^{-(Z_i)}}$$

$$1 - P_i = \frac{1}{1+e^{(Z_i)}} \quad \text{.....(4)}$$

Then the ratio of probability of participating or not participating in the market may be given as

$$\frac{P_i}{1-P_i} = \frac{e^Z/(1+e^Z)}{1/(1+e^Z)} = e^Z \quad \text{.....(5)}$$

Thus, $P_i/(1 - P_i)$ is simply the odds ratio in favour of participating in the market—the ratio of the probability that SMAEs will participate in the EAC market to the probability that SMAEs will not participate in EAC market.

By introduce the natural log to equation (v), the final equation obtained will be

$$L_i = Ln(\frac{P_i}{1-P_i}) = Z_i \quad \text{.....(6)}$$

$$Ln(\frac{P_i}{1-P_i}) = \alpha + \sum B_i X_i + \mu \text{ .....(7)}$$

Which may be extended by explaining the variables to be included; and the equation to be estimated becomes

$$Ln\left(\frac{P}{1-P}\right) = \alpha + \beta_1 X_I + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \beta_6 X_6 + \beta_7 X_7 + \beta_8 X_8 + \beta_9 X_9 + \beta_{10} X_{10} + \mu \text{ .....} \quad (8)$$

Where by:

$Ln\left(\frac{P}{1-P}\right)$ = Is the dependent variable expressed in natural logarithm of the probability of SMAEs participating in the EAC market (P_i) divided by the probability of SMAEs not participating in the EAC market (1- P_i). And this takes values 1 for participating and 0 for not participating

X_1 = Market information (1= received market information, 0= Otherwise)

X_2 = Price Maize

X_3 = Price of Beans

X_4 = Price of Rice

X_5 =Distance (Km)

X_6 = Experience (Years)

X_7 = Current Capital (Tshs)

X_8 =Age (Years)

X_9 = Education (Number of years in school)

X_{10} = Gender (1= Male, 0 = Female)

α = Intercept (Constant)

β_i = Parameters to be estimated

μ = Disturbance term $\mu \sim N(0, P_i(1-P_i)$

3.10.1.2 Expected sign from the parameters to be estimated by the model

The coefficients described from the Table 3 below shows the expected signs for each variable to be included in the model.

Table 3: Specification of variables and their expected signs in the model

Code	Variable	Abbreviation	Measurements	Expected signs
X_1	Market information	MKTINFO	(1= received market information,0= Otherwise)	+
X_2	Selling Price of Maize	MAIZE_PRICE	(In Tshs)	+
X_3	Selling Price of Beans	BEANS_PRICE	(In Tshs)	+
X_4	Selling Price of Rice	RICE_PRICE	(In Tshs)	+
X_5	Distance	DIST	(Km)	-
X_6	Experience	YEARS	(Years)	+
X_7	Current Capital	CAPT	(Tshs)	+
X_8	Age	AGE	(In years)	+
X_9	Education	EDU	(Number of years in school)	+
X_{10}	Gender	SEX	(1= Male, 0 = Female)	+/-

3.10.1.3 Market information

Market Information was expected to have a positive influence on the participation of Small and Medium Agro-Enterprises (SMAEs) owners in the EAC Cross border trade. This is because such information would enable the owners to be aware of what is needed in the market

3.10.1.4 Price of Agricultural goods

The prices of agricultural goods traded were expected to have a positive correlation from the theory of Supply that the higher the price the higher the quantity supplied. Thus, when the prices of commodities from EAC countries are higher than the prices of domestic products; it is likely that, SMAEs will be more motivated to export to the markets of EAC countries than is the case in the local markets.

3.10.1.5 Distance

Distance was expected to have a negative sign because the longer the distance the higher the costs participating in the market; hence is likely to discourage SMEs owners to participate in such markets. .

3.10.1.6 Experience

Experience was expected to have a positive sign because the more experienced the Small and Medium Agro-Enterprises (SMAEs) owners are in cross border trade the more aware they become of the procedures, regulations, information and skills required for cross border trade which would in turn influence market participation.

3.10.1.7 Current capital

Current capital of Small and Medium Agro-Enterprises (SMAEs) was expected to have a positive sign in the sense that the capital determine the level of enterprises as to whether Small or Medium. Having a big amount of capital would enable the SMAEs to invest in business, cover all necessary costs, and take bigger risk for running the business, which would then lead to more participation in the market.

3.10.1.8 Age

The age of Small and Medium Agro enterprises (SMAEs) owners was expected to have a negative sign in that, older owners would become less motivated in participating in the East Africa Community (EAC) market. This is because compliance with the regulations and involvement in the activities required for cross border trade require more energy and diligence.

3.10.1.9 Education

Education which was measured by the number of years in school was expected to have a positive sign in the sense that the more the time (in years) the Small and Medium Agro-Enterprises' (SMAEs) owner spent in school the more knowledgeable they become. This makes it easy for them to comply with trade regulations, and thereby increase the level of participation in the in the EAC cross border trade. Education variable represents the level of educational attainment of the household head in terms of years. Formal education enhances managerial competence and successful implementation of improved production, processing and marketing practices (Marenya and Barret, 2006 as cited by Angula, 2010), Education also has an implication on the ability to understand and interpret information. Thus, education levels affect market information interpretation and hence, market participation level (Jari, 2009). Therefore education was expected to increase the probability of participating in the EAC market; and the more educated the farmer is the more likely for them to spend less time doing marketing activities.

3.10.2 Problem in estimating logistic regression and solution

The serious problems encountered in the regression analysis are mainly to do with multicollinearity, heteroscedasticity and autocorrelation. Out of these the most notorious problems in logistic regression is heteroscedasticity (Gujarat, 1995 as cited by Seluhinga, 2007). Heteroscedasticity is a problem, which occurs when variance of the error term is not constant and thus resulting into large standard errors of parameter estimates (Seluhinga, 2007).

Heteroscedasticity can be detected in the model through visual inspections well as using the tests such as Breusch-Pagan / Cook-Weisberg Test for Heteroskedasticity and White's General Test for Heteroskedasticity. Several suggestions have been put forward to

address heteroscedasticity; some of them are to re-specify the model or transform the variables; and the other alternative is to estimate the model by using **Robust Standard** errors to address biasness because heteroskedasticity causes standard errors to be biased (Williams, 2014).

3.10.3 Review of literatures of Logistic regression

A study by Moshi (2007) used logistic linear regression in identifying factors which account for credit accessibility among small scale millers in analyzing financing agricultural marketing in Tanzania, the case of small scale millers in Dar es Salaam and Morogoro. The binary dependent variable was access or lack of access to credit, while the social economic factors which were included in the model as independent variables influencing credit access or otherwise were age, gender, education, location, and other occupation and experience of millers. The results obtained showed that age, education, and the type of products were positively related to the size of the loan which was in accordance with the *priori* expectation, while gender (male, female) and years of schooling were negatively related to the access of loan.

Another study by Chimilila (2006) used logistic regression to examine the influence of socio-economic factors on processors' access to supermarkets focusing on dairy farmers and processors access to emerging niche markets at supermarkets in Dar es Salaam and Morogoro. The dependent variable was selling or not selling to supermarkets; and the independent variables related to socio economic factors which were the number of products produced, primary occupation, training, membership of processors organization, experience in dairy processing business, and processors' location. The results from logistic regression which were estimated using Maximum likelihood estimators method showed that all the socio economic factors included in the model were positively related

to access to supermarkets which implies that the number of products produced, primary occupation, training, membership of processors organization, experience in dairy processing business, and processors' location had a positive influence on the access to supermarkets by the processors of dairy products.

3.11 Independent T test

Independent t test was used to compare the transport costs incurred by Small and Medium Agro enterprises (SMAEs) engaged in East Africa Community (EAC) cross border trade and those incurred by SMAEs who were trading locally within the country so as to establish the difference and to determine the effect of additional transport costs resulting from Non-Tariff Barriers (NTBs) covered by those who engaged in EAC cross border trade.

3.12 Costs and Benefit Analysis

There are various methods in analyzing the effects of Non-Tariff barriers in cross border trade. The most widely used methods in measuring and analyzing the effects of NTBs on agricultural trade are Cost-Benefit Analysis, Effective Protection, Game Theory, General Equilibrium Model, Gravity-Equation Techniques, Inventory-Based Frequency Measures Survey based Approach, and Partial Equilibrium Models. Others include Price-Wedge Method, Quota-Auction Price Measures, Risk Assessment, Spatial Equilibrium Models, and Tariff Equivalent (Okumu *et al*., 2010).

However there is no one common method which is perfect in analyzing any kind of NTBs in any commodities. Every method identified depends on the nature of data which are used. Many of these methods require an extensive time series and aggregate data for

analysis; this study has adopted Cost and Benefit Analysis due to data availability and time constraints on the field survey.

Cost-Benefit Analysis (CBA) is an economic appraisal tool for the comparison of costs and benefits associated with alternative approaches. CBA provides a useful basis for decision-making and assists in the systematic appraisal and management of capital and current projects (CEEU, 2014).

The use of cost-benefit analysis and alternative methods in quantifying the economic effects of non-tariff measures can be addressed as a systematic assessment of costs and benefits of a hypothetical policy change. Cost and Benefit Analysis approach normally seeks to quantify costs and benefits from changing the current policy. The current policy may be a situation of no regulation or no interference with the market (do-nothing). The typical problem facing such an assessment is that some of the relevant cost and benefit items cannot be estimated with great precision simply because the policy change is hypothetical and there are no empirical observations available that could reveal reactions of consumers and producers to the new policy set (Tongeren, 2009).

The study analyzed the Costs and Benefit analysis by comparing the Net Present Values (NPV) of Small and Medium Agro-Enterprises trading to EAC partner states and the Net Present Values (NPV) of Small and Medium Agro-Enterprises trading locally within the country so as to establish the difference between the two groups. However, the analysis went further into analyzing the differences in terms of transport costs and additional transport costs accounted for NTBs which were incurred as a proxy for Non-Tariff Barriers (NTBs) to SMAEs exporting to EAC countries. This is because SMAEs only

face the NTBs indirectly through the costs they incur in transport their agricultural goods to EAC countries.

The choice of years to be included were based on the correlation between the experiences (measured in terms of years) of Small and Medium Agro-Enterprises (SMAEs) exporting to EAC countries and the current capital. The correlation as Table 4 below shows was significant at 0.001 and the sign for the correlation was positive meaning that experience has a positive relationship with the current capital of SMAEs exporting to EAC partner states. This means that the more experienced the SMAEs engaged in EAC cross border trade becomes the higher their capital becomes. Thus, the study projected the Net Present value (NPV) for the next ten years and discounted the net returns for the period of ten years to obtain the future Net Present Value (NPV) at the present using CBA analysis. The same procedure was followed to project the Net Present Value (NPV) of those trading within the country based on the same criteria of ten years' time horizon.

Table 4: Correlations analysis between Experience and Current Capital

		Current Capital	Experience in Agribusiness trade
Current Capital	Pearson Correlation	1	.313**
	Sig. (2-tailed)		.001
	N	104	102
Experience in Agribusiness trade	Pearson Correlation	.313**	1
	Sig. (2-tailed)	.001	
	N	102	103

**. Correlation is significant at the 0.01 level (2-tailed).

Thus, the average experience of SMAEs was 9.9 years (10 years) and the average current capital stood at 30 006 000/= Millions Tshs the SMAEs exporting to EAC country, and 25 845 238/=Millions Tshs for the SMAEs trading locally within the country. The same

procedure was followed to determine the correlation between experience and current capital for those SMAEs traded locally within the country. The Net Present Value formula used was as follow.

$$NPV = \sum_{0}^{T} \frac{B_t - C_t}{(1+r)^t} \quad \text{………………………………………………………… (9)}$$

$$NPV = \sum \frac{B_0 - C_0}{(1+r)^0} + \sum \frac{B_1 - C_1}{(1+r)^1} + \text{..........} \sum \frac{B_T - C_T}{(1+r)^{10}} \quad \text{……………................ (10)}$$

Where:

NPV= Net Present Value

B = Benefits at time t

C = Costs at time t

t = Time

r = Discount rate

The choice of the discount rate was taken from the monthly economic review of March 2014 from the Bank of Tanzania (BOT) which was 16.00% and this was used to discount the net returns of maize, beans and rice which are both exported by Small and Medium Agro-Enterprises (SMAEs) to East Africa Community (EAC) countries and traded locally within the country. The net returns were calculated on the basis of trading activities observed per week whereby SMAEs were found to export agricultural goods on average of once per week and travel to EAC countries to sell the commodities. It normally takes an average of three days to sell all agricultural goods exported. The returns for each agricultural goods were calculated on the basis of net returns per week (per one trip), then the values were aggregated on average of 30 weeks in a year. Other weeks in a year were omitted because of seasonal variation of each agricultural goods traded, the supply and demand shifting as well as other activities carried out by SMAEs owners; this includes for

example spending time with families as majority of SMAEs owners are married as Table 5 shows marital status of SMAEs owners.

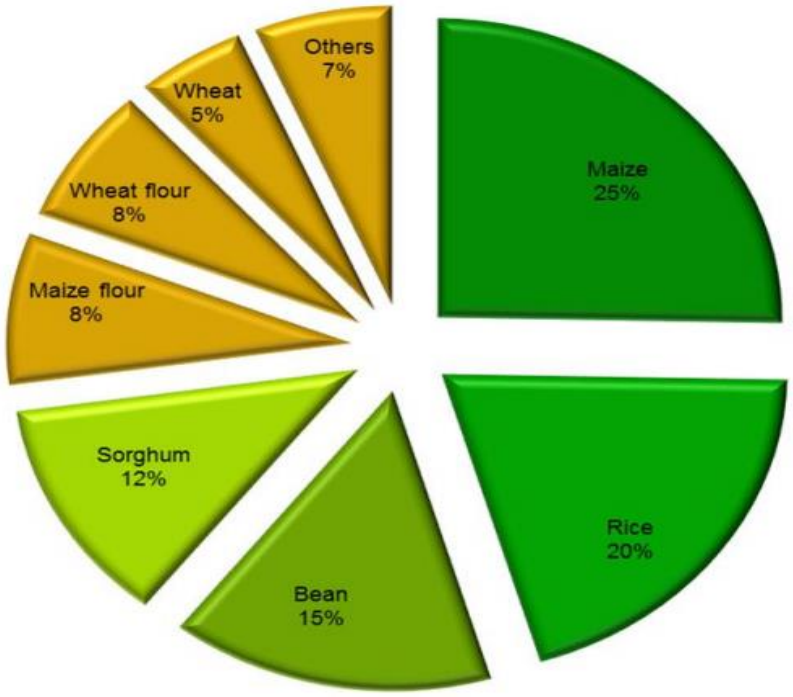


Figure 7: Main commodities exported in Eastern Africa MT in 2013:
Source: FSNWG (2014)

Therefore based on various trade reports, the study selected three agricultural goods to be studied namely maize, beans and rice. Maize and beans were studied in Arusha Region as these are the most widely exported agricultural goods in Arusha to Nairobi Kenya (as field survey revealed), SMAEs purchase the crops within the region because many farmers in the region grow these crops. Rice as a case study was studied in Mwanza and Kagera Regions because these regions are the greatest rice traders. SMAEs purchase the rice from Kahama, Shinyanga, Geita, and Sengerema and export it to Uganda.

CHAPTER FOUR

4.0 RESULTS AND DISCUSSION

This chapter presents the results and discussion for the data obtained during the whole study. It starts with the overall characteristics of Tanzanian Small and Medium Agro Enterprises (SMAEs) owners exporting agricultural goods to EAC partner states and Tanzanian Small and Medium Agro Enterprises (SMAEs) owners trading locally within the country. These are presented in terms of descriptive statistics involving percentage, frequency, standard deviation, means, and maximum and minimum characteristics of the respondents. Then this is followed with a discussion on the exporting process of agricultural commodities to EAC countries, the analysis of determinants of EAC Cross Border Trade SMAEs in Tanzania, identification of the existing EAC non-tariff barriers affecting SMAEs in Tanzania and finally the analysis and discussion on the effects of NTBs on Tanzania SMAEs cross border trade to EAC partner states.

4.1 Characteristics of Tanzania Small and Medium Agro-Enterprises' Owners

4.1.1 Gender of small and medium agro-enterprises' owners

Results in Table 5 show that out of 105 interviewed small and medium agro enterprises (SMAEs) owners who are engaged in EAC cross border trade 79 (75%) were males and 26 (25 %) were females and out of 105 interviewed small and medium enterprises who trade locally within the country 88 were (84 %) males and 17 (16 %) were females. This implies that most of the enterprises were owned by males. This implies that women are not actively engaged in EAC Cross border trade, they (women) trade locally within the country vis-à-vis male. As the focus is on those who engaged in EAC cross border trade this results might be caused by the nature of the trade itself in that the trade requires much movements, negotiations, and close follow-up to ensure that the goods are delivered

and paid for. Thus, sometimes women may get some difficulties to deal with some unfaithful male traders in other countries where they export their commodities. This finding is in agreement with the findings from a study by Akatsa-Bukachi (2012) on Cross border Trade in the Paradox of Women Cross border traders in East Africa. The study referred to here, points out that among other challenges which women face in the trade include sexual harassment as well as exploitation that results from limited knowledge of trade. These are likely to affect their participation in the trade. Also women in Tanzania play a major role in taking care of children, the sick, the elderly and others (Stärken and Wandeln, 2009). This is because they (women) are required to work closely with family members to meet their needs, hence, this limit women's participation in Cross border trade.

4.1.2 Age of Tanzania Small and Medium Agro-Enterprises' owners

Out of 105 Small and Medium Agro-Enterprises (SMAEs) owners engaged in EAC cross border trade and who were interviewed in the study, 11 (11 %), ranged from 20 to 30 years old, 63 (60 %), ranged from 31 to 40 years old, 26 (25 %) ranged from 41 to 50 and 5 (5 %) were above 50 years old. As for those who trade locally within the country out of 105 interviewees 3 (3 %) ranged from 20 to 30 years old 76 (72 %), ranged from 31 to 40 years old, 24 (23 %) ranged from 41 to 50 years old and 2 (2 %) were above 51years old. The results are shown in Table 4 show. However, the average age of SMAEs involved in EAC cross border trade was 39 years old, with a maximum of 55 and a minimum of 21 years and for those who trade locally within the country the average age was 38, with a minimum of 30 and a maximum of 55. This implies that Tanzania the SMAEs owners who export agricultural products to EAC countries and those who trade locally within the country are mostly old people. As Mwamnyange (2008) points out, age determines individual maturity and ability to make rational decisions; in this respect, SMAEs owners

being adults, they are capable of making difficult decisions regarding cross border trade to EAC partner states, regardless of any barriers that may arise.

4.1.3 Education level of small and medium agro-enterprises' owners

The results from Table 5 show that out of 105 Small and Medium Agro-Enterprises (SMAEs) owners engaged in East Africa Community (EAC) cross border trade, those with Primary education were 37 (35 %), Secondary education were 60 (57 %), University/College 8 (8 %). As for those who were trading locally within the country 51 (49 %), had Primary education, 52 (50 %) had completed secondary education, 1 (1 %) had completed University/ College and Those who didn't receive formal education were 1 (1 %) . This shows that most of SMAEs owners have obtained some level of education at least Primary education. This will enable them to read and write so as to cope with business activities. Also however, majority of SMAEs owners who are engaged in EAC cross border trade have obtained secondary education, this implies that, secondary education is likely to be useful to them in understanding, analyzing and making better decisions on business transactions.

4.2.3 Marital status of small and medium agro-enterprises' owners

The results show that out of 105 Small and Medium Agro-Enterprises (SMAEs) owners who export their agricultural commodities to East Africa Community (EAC) partner states, 16 (15 %) were single, , 82 (78 %) were married, 2 (2 %) were divorced and 1 (1%) were widowed. As for those who trade locally within the country, out of 105 interviewed 104 (99%) were married and 1 (1 %) were single as Table 5 shows. As the results show, most of the SMAEs owners are married which implies that they (owners) have family responsibilities. The results in this study concur with the results in a study by Mwamnyange (2008), on financing agricultural market in Tanzania a case study of maize

and rice traders in Kyela Mbozi and Dar es salaam., The study referred to concludes that, marriage plays an important role in shaping social organizations and relations. This is particularly because marriage relationships are associated with many socio-economic, cultural and demographic aspects.

Therefore as the results show, most of the SMAEs owners were found to be married, this implies that the owners are likely to be highly responsible with major roles in the society, these roles may influence them to engage on EAC cross border trade as to utilize the opportunity of generating more income to sustain their families.

4.2.4 Major occupation of small and medium agro-enterprises' owners

Table 5 presents a major occupation of Small and Medium Agro-Enterprises (SMAEs) owners who export their agricultural goods to East Africa Community (EAC) partners. The results show that out of 105 interviewed 104 (99 %) were involved in Agribusiness trade as their major occupation and the remaining 1 (1 %) respondents were engaged in other businesses. As for those who trade locally within the country 64 (61%) were involved in Agribusiness trade as their major occupation, and 41 (39%). were involved in Farming This means that most of the SMAEs owners who export their agricultural goods to EAC partners states were involved in Agribusiness as their major occupation. This is because exporting agricultural commodities requires much time and direct involvement of SMAEs owners to make sure that goods reach their designated market, for such goods to be sold at a desired price. This gives them small room for having other business as major activities and be engaged in EAC cross border trade at the same time. As Table 5 shows, of all the interviewed SMAEs owners who export to EAC partner states only 1% are engaging in other business as their major occupation.

Table 5: Distribution of respondents by their characteristics (N=210)

Variable Name		SMAEs' Owners Exporting to EAC (n =105)		SMAEs' Owners Trading within the country (n = 105)	
		F	%	F	%
Age	20 to 30	11	11	3	3
	31 to 40	63	60	76	72
	41 to 50	26	25	24	23
	>51	5	5	2	2
Gender	Male	79	75	88	84
	Female	26	25	17	16
Education Level	Primary education	37	35	51	49
	Secondary	60	57	52	50
	education	8	8	1	1
	University/College	0	0	1	1
	None				
Marital Status	Single	16	15	1	1
	Married	82	78	104	99
	Divorced	2	2	0	0
	Widowed	1	1	0	0
	Separated	4	4	0	0
Major	Agribusiness SME	104	99	41	80
Occupation	Trader	1	1	16	15
	Other business				

4.2.5 Other activities done by small and medium agro-enterprises owners

In Fig. 8 presents other activities carried out by Small and Medium Agro-Enterprises (SMAEs) owners who are engaged in East Africa Community (EAC) cross border trade. Out of 105 of the interviewed owners, 62 (59 %) were doing farming, 1 (1 %), were involved in livestock keeping, 7 (7 %) were employed in other sectors, and 20 (19%) were involved in other businesses. And out of 105 Small and Medium Agro-Enterprises (SMAEs) owners who trade locally within the country 84 (80%) were involved in farming, and 16 (15 %) were doing other business. This implies that apart from cross border trade to EAC partner states majority of SMAEs owners are involved in farming activities as it is easy and relevant for them to manage, as they can be able to sell commodities which they grow and harvest themselves with the additional of others from

warehouses, assembly markets, and middlemen/brokers. However, it is also appropriate activity for them to do because they understand the seasons, marketing outlet and right channels of selling them. The results are shown in Fig. 8.

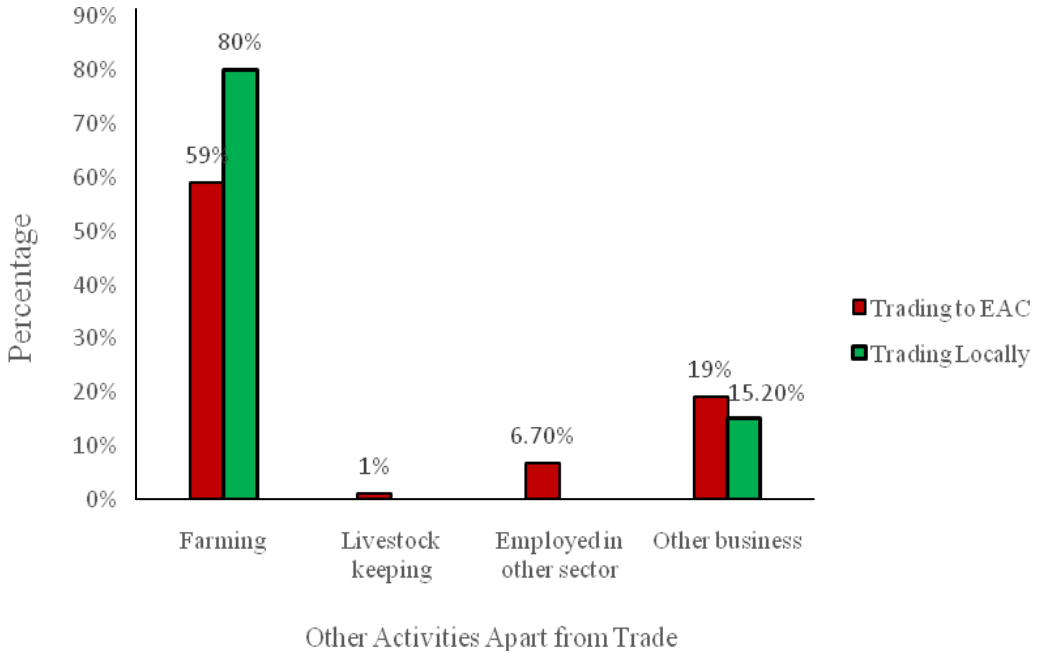


Figure 8: Other activities done by Small and Medium Agro-Enterprises owners

4.2.6 Experiences of small and medium agro-enterprises owners

The results show that the average experience of Small and Medium Agro-Enterprises (SMAEs) owners exporting to East Africa Community (EAC) partner states is 9.9 (10) years with a maximum of 32 years and a minimum of 1 year. For those who trade locally within the country, the average experience was 6 years, with a minimum of 2 years and a maximum of 39 years. This implies that, out of the sample chosen in the study, majority of the SMAEs owners exporting to EAC countries were more experienced and conversant with the trading activities and procedures involved as compared to those who trade locally within the country. This gives the former category of people more insight in engaging to EAC cross border trade.

4.2.7 Market information

The results show that out of the Small and Medium Agro-Enterprises (SMAEs) owners interviewed, 96 (91 %) normally received market information on EAC cross border trade, and 9 (9 %) were trading without any prior information on EAC market. And as for those who trade locally within the country, 102 (97 %) normally received market information and 3 (3 %) didn't receive market information as Table 6 shows. In this study, market information was considered to be relevant to the SMAEs owners. Such information involved market price and the demand for agricultural goods in the EAC country where they wish to export their agricultural commodities. Therefore, the results show that majority of SMAEs owners specifically those who export to EAC countries received market information prior to exporting their goods. This means that these owners export their commodities after they know that there is potential market and a possibility of generating profit. Those who don't receive information prior to exporting their agricultural goods have a tendency of exporting their agricultural goods to the common markets such as Thika, Nyamakima, and Marikiti (Wakulima House) in Kenya with the expectations of finding potential buyers in the market. This means that they risk exporting commodities without being sure of whether or not they would get potential buyers. However, SMAEs who operate in this way are often quite experienced in the EAC cross border trade.

Table 6: SMAEs received Market information (n=210)

Receiving Market Information	**SMAEs exporting to EAC**		**SMAES trading locally**	
	F	%	F	%
Yes	96	91	102	97
No	9	9	3	3
Total	105	100.0	105	100

4.2.8 Source of information for small and medium agro-enterprises' owners

There are various sources of market information whereby Small and Medium Agro-Enterprises (SMAEs) owners can use to access proper information prior to trading their agricultural goods. The results from Fig. 9 show that out of those who participate on EAC cross border trade 52 (50 %) received information directly by visiting the market, 43 (41%) received market information from fellow SMAEs, and 1 (1%) received market information from other sources. as for those who trade locally within the country 87 (83 %) received market information directly from the market, and 15 (14 %) did it through fellow traders (SMAEs owners). These findings indicate that those who trade locally within the country and received market information directly through visiting the market were 87 (83 %). This figure is higher than the figure of those who export to EAC countries. This is because those who trade locally live closer to the markets; so the better source of receiving market information would be physical visits to the market. The results also show even for the SMAEs who are engaged in EAC cross border trade, most of them receive market information through physically visiting the market. This may be due to trust among themselves and fear of generating loss from the businesses especially when the goods have already reached the other markets in the EAC partner states. therefore, they would prefer to go and find market, potential buyers and negotiating prices themselves rather than depending on mere information from fellow SMAEs owners; this would assure the safety of their of their commodities after crossing the border. this is because, it is difficult to return the commodities after exporting them due the fact that the costs of returning the agricultural goods to the local market to sell at desired price will be higher and may lead to huge loss.

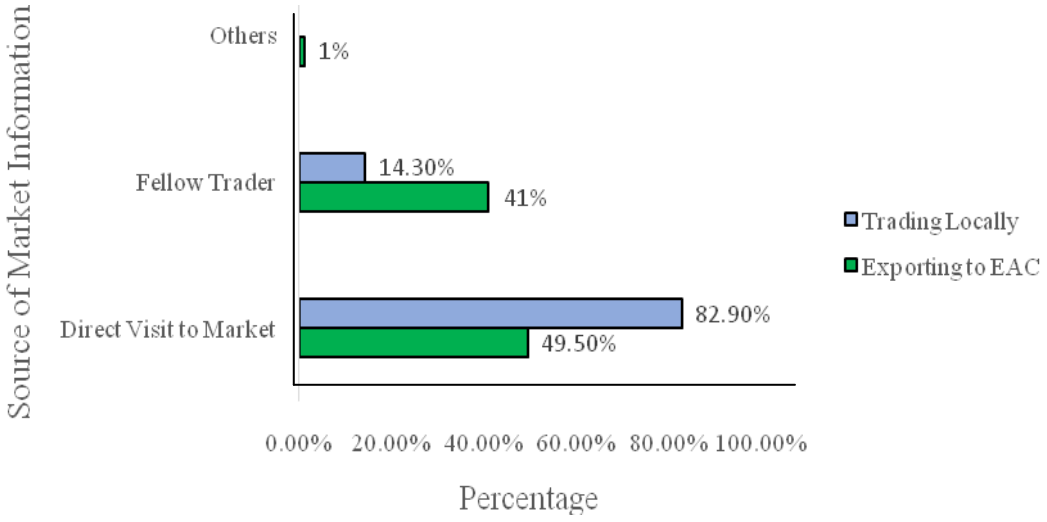


Figure 9: SMAEs source of information

4.2.9 Small and medium agro-enterprises start-up capital

In this study, capital was categorized in different levels based on SME Policy of Tanzania (2002) so as to define the type of enterprise that are owned by the respondents. The study results show that 69 (66 %) of Small and Medium Agro-Enterprises (SMAEs) engaged in cross border trade started with the capital of 5 million Tshs. These comprised Micro-Enterprises, 35 (33 %) SMAEs started with the capital ranging from 5 million to 200 million Tshs. this means the group comprised Small- Enterprises and 1 (1 %) of the SMAEs started with the capital ranging from above 200 million to 800 million; this group comprised Medium-Enterprises. As for those who trade locally within the country 78 (74 %), started with capital of up to 5 million Tshs and 27 (26 %) started with the capital of above 5 millions Tshs to 200 millions Tshs. The study results indicate that majority of SMAEs started up their businesses as Micro-Enterprises with the capital ranging of anything up to 5 million Tshs The average start-up capital was 5627100/= Tshs for those

engaged in EAC cross border trade and 4 187 000/= Tshs for those who trade locally within the country as is shown in Fig. 10. This trend might be due to the fact that majority of SMAEs are found in the group of low income earners who can not afford to start a business with a big amount of capital.

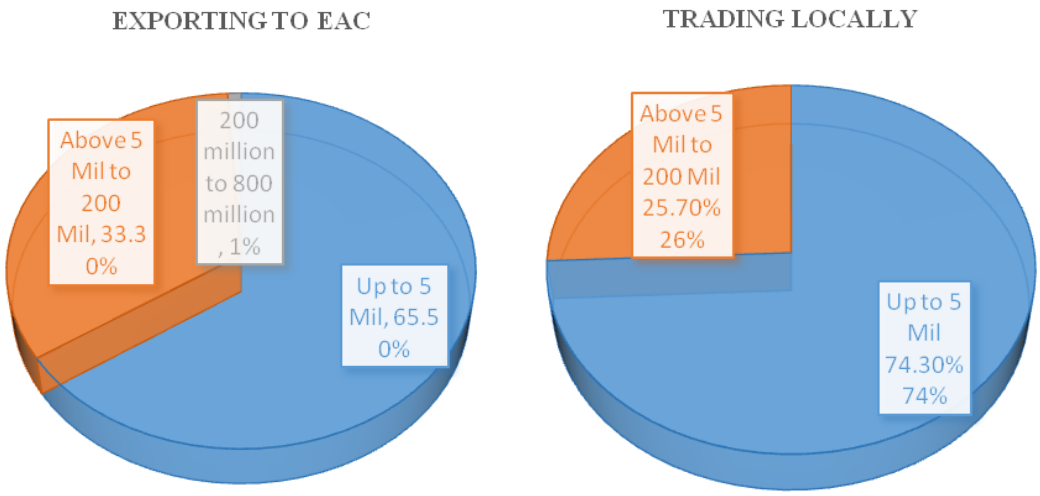


Figure 10: Tanzania SMAEs Start-up capital for Agribusiness

4.2.10 Small and medium agro-enterprises current capital

The current capital vary significantly across different categories of Small and Medium Agro-Enterprises (SMAEs). The results in Table 13 show that, 13 (12 %) of the SMAEs engaged in EAC cross border trade, had the current capital of up to 5 million Tshs, these represent Micro Enterprises. About 90 (86 %), of the SMAEs engaged in EAC cross border trade had the current capital of above 5 million Tshs to 200 million Tshs; these represent Small Enterprises and 1 (1 %) of the SMAEs had the current capital of ranging from above 200 Tshs. millions to 800 million Tshs; these represent Medium Enterprises, with the average Current capital of 30 000 000/= Tshs and with a minimum 400 000/=Tshs and a maximum of 320 000 000/= Tshs. as for those who trade locally

within the country were 2 (2 %) had the current capital of up to 5 million Tshs; these represent Micro Enterprises, and 103 (98%) had the current capital ranging from above 5 million Tshs to 200 million; these represent Small Enterprises and had an overall capital of 24 197 000/= Tshs, with a minimum of 700 000/=Tshs and a maximum of 75 000 000/= Tshs. This means that most of the Tanzania's enterprises who engage in agricultural trade locally within the country and in EAC cross border trade are small enterprises. This trend is a result of having low income generation capacity among the traders. Majority depend fully on the agribusiness trade as their major occupation. These also have family responsibilities as majority are also married and sustain their family with the same returns or profit they obtain, and this leads to gradual growth of their capital.

Table 7: Tanzania Small and Medium Agro-Enterprises current capital

Current Capital	**Exporting to EAC**		**Trading Within the country**	
	n	%	n	%
Up to 5 mil.	13	12	2	2
Above 5 mil. to 200 mil	90	86	103	98
Above 200mil. to 800mil	1	1	0	0
Total	104	99.0	105	100

4.2.11 Source of Capital by Tanzania SMAEs

The results show that 86 (82 %) of the Tanzania SMAEs owners engaged in EAC cross border trade those obtained capital through own saving, 4 (4 %) obtained capital through Savings and Credits Cooperative Society (SACCOS), 7 (7 %) obtained capital through friends and relatives 1 (1 %) obtained capital through money lenders and 7 (7 %) obtained capital through Banks. On the other hand, all of the interviewed SMAEs owners trading locally within the country obtained their capital through own savings. It seems most of the interviewed SMAEs owners trading locally are either not aware or not interested in using the Banks and SACCOS to access credits and increase capital investment and expand the sizes of their enterprises.

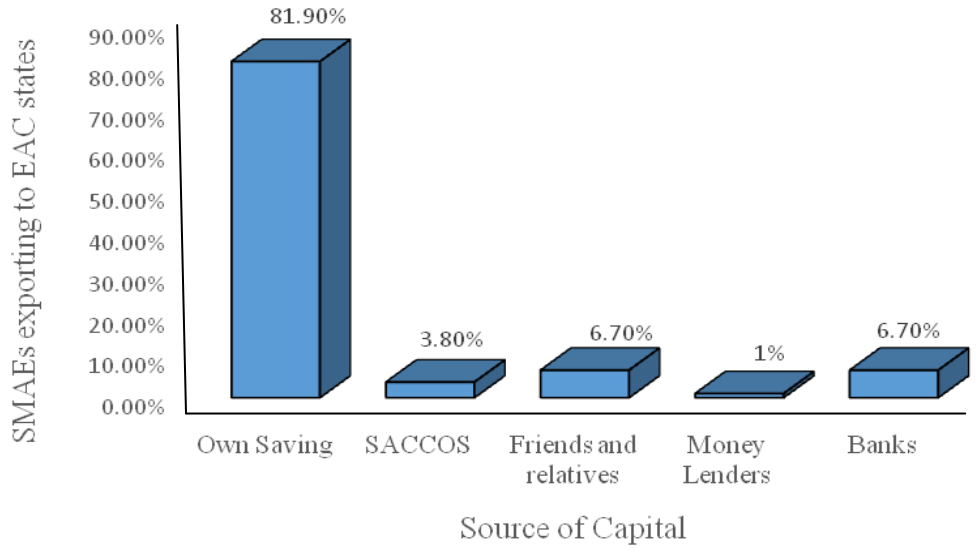


Figure 11: Source of Capital by Tanzania SMAEs exporting to EAC countries

4.2.12 Border used by small and medium agro-enterprises engaged in East Africa community cross border trade

The results show that 84 (80%) of the interviewed Small and Medium Agro-Enterprises (SMAEs) used Namanga border to EAC partner states is followed by 16 (15 %) who used Holili and 5 (5 %) who used Mutukula border points. Namanga is the most commonly used border because of its close proximity with Arusha town where most of the SMAEs are located. It is also not far from Nairobi Market where SMAEs located in Arusha do much of their trade.

Table 8: Borders used by Small and Medium Agro-Enterprises in Cross border trade to East Africa Community partner states

Border Points	Frequency (n)	Percent
Namanga	84	80
Holili	16	15
Mutukula	5	5
Total	105	100

4.2.13 Small and medium agro-enterprises and agricultural goods traded

Out of the interviewed Small and Medium Agro-Enterprises (SMAEs) engaged in East Africa Community (EAC) cross border trade, in the markets of Arusha, Mwanza, and Kagera, 79 were exporting maize, , 52 were exporting beans, and 5 were exporting rice. On the other hand, out of the interviewed Small and Medium Agro-Enterprises (SMAEs) who were trading locally within the country, 84 were trading maize, 39 were trading beans, and 5 were trading rice. In Mwanza and Kagera Regions, rice is mostly traded within the country however despite the fact that most SMAEs in Mwanza trading locally, only 5 respondents were taken to match with the number of SMAEs exporting to EAC who were also 5 respondents as the volume of export to EAC countries by Mwanza SMAEs is low.

The results indicate that maize is mostly traded by both SMAEs, that is, those engaged in EAC cross border trade, and those who trade locally within the country. The reason for this trend could be due to the importance of maize as food crop in the region, being a short season crop and being constantly demanded crop offering better price. Beans is the second most traded crop, which is mostly traded to Kenya. This might be due to the fact that beans is one of the food crops which is widely grown together with maize (Crop mixing) in Tanzania. According to baseline survey, Kenya's demand for beans, specifically the variety of beans called Hyacinth Bean or Lablab purpurea (*Dolichos lablab*) "Ngwara" in Swahili is high as shown in Fig. 12. This variety is grown in large quantity in and many places such as Mirongoine in Arusha in Tanzania. However, the local demand for this variety is not high as other varieties of beans such as Soya beans.

Table 9: Small and Medium Agro-Enterprises and Agricultural goods traded

Agricultural Goods	SMAEs exporting to EAC (n)	SMAEs trading locally within the country (n)
Maize	79	84
Beans	52	39
Rice	5	5

Figure 12: Hyacinth Bean (Lablab Bean) "Ngwara"

4.2.14 Source of Agricultural products

SMAEs purchase agricultural products from several sources such as direct from farmers, middlemen/brokers, warehouse/stores, assembly markets and from wholesalers. Results show that SMAEs purchase agricultural goods direct from farmers which were 80, followed by 69 from assembly market, 8 from warehouse/store and 10 from wholesalers among the SMAEs interviewed. SMAEs trading locally by which 103 SMAEs purchased agricultural goods direct from farmers and 89 from assembly markets out of SMAEs interviewed. The only difference is, for SMAEs trading locally they do not purchase from wholesalers, stores or from brokers/middlemen, they depend on purchasing agricultural goods from farmers or from assembly markets within specific days as Fig. 13 showing

one of the assembly market in Mbauda Arusha indicating the process of packaging, labelling and storage of agricultural goods purchased in Assembly market, and the lastly unloading of agricultural goods in Thika Market Kenya. The reason for most of SMAEs purchasing agricultural goods direct from farmers in the whole chain is due to low purchasing price that they get from farmers, compared to other sources where the prices are higher due to transport, storage and other costs.

Figure 13: Assembly market, packaging, storage and unloading activities

4.2.15 Buyers in EAC market

SMAEs exporting to EAC market mostly sell their agricultural products to wholesalers in EAC countries which were 96 of interviewed respondents, followed by retailers by which 26 they were selling to retailers and 6 respondents they were selling directly to consumers. The reasons behind is that, wholesalers offer better price and assurance of purchasing agricultural goods at large quantity compared to retailers and consumers themselves. However the great deal are made through informal contract by which wholesalers order a certain quantity of agricultural goods. Some of these wholesalers in Kenya are industries and millers who do process them for instance maize to make maize flours which is sold within Kenya and some exported to South Sudan where there is political disputes which cause high demand for food, thus they import maize flour from Kenya. On the other side for those trading locally within the country, 99% are also selling to wholesalers and only 1% do sell to retailers. The reasons might be the same as for those exporting to EAC countries.

4.3 Identified Non-Tariff Barriers affecting Small and Medium Agribusiness Cross Border Trade with East Africa Community Member Countries in Tanzania

Using information from the server database of the Non-Tariff barriers (NTBS) of the Tanzania Chamber of Commerce Industry and Agriculture (TCCIA) headquarters in Dar es Salaam, Short Message Service (SMS), and Online reporting and monitoring Mechanism project, the study obtained statistics of an up to date reported cases of NTBS originating from Tanzania and other East Africa Community (EAC) countries, but affecting Tanzania. These statistics were compared with the findings obtained in this study. The information obtained covered a period of up to May 2014, with the following descriptions;

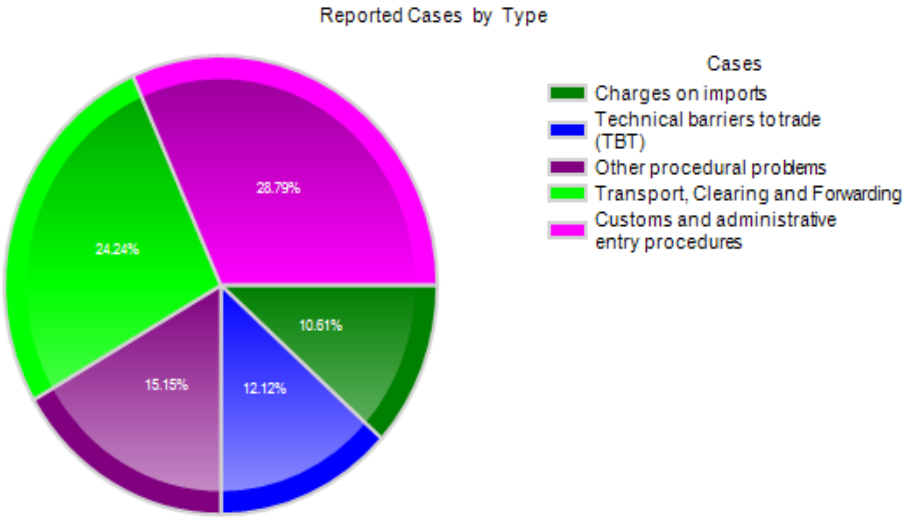


Figure 14: NTBs reported Cases by types

Source: TCCIA May 2014

4.3.1 Customs and administrative procedures

The findings show that there are many customs and administrative procedures required to be followed at the border points; these procedures accounted for 28.79 % of the total NTBs reported as Fig. 14 shows. The results from TCCIA are in agreement with the findings from the current study confirm that at each border points visited namely Namanga in Arusha, Holili in Kilimanjaro and Mutukula in Kagera, many documents were needed at these points for the agricultural goods to be allowed to pass across from one border to another, the procedures were even more elaborate in the Tanzania side.

4.3.1.1 Tanzania revenue authority

According to the Tanzania Revenue Authority **(**TRA) regulations and procedures, the documentation process for exporting goods is done online and completed before examination of goods and export release. The initial process starts with the exporter through appointing a CFA, the exporter hands over the documents either manually or

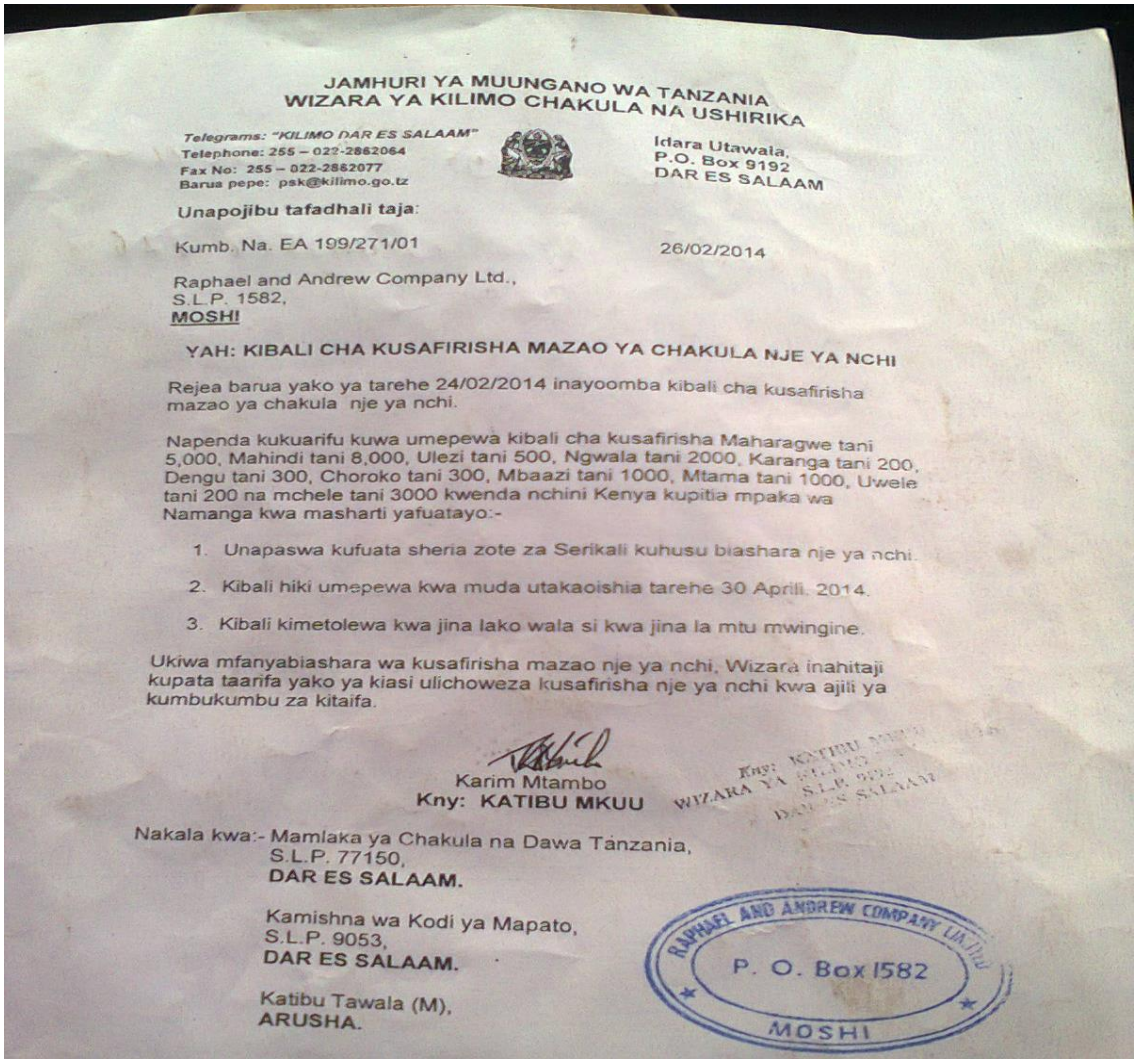
electronically to the CFA who uploads them in the Automated System for Customs and Statistical Data (ASYCUDA++) and lodges the same to TRA whereby a reference number is automatically generated. The exporter ought to bring the exports to the Container Freight Services which are licensed by the Commissioner for Customs and Excise. The Exporter informs the Customs Officer, about the goods to be exported in order to monitor the process of loading goods in the container or truck ready for shipment (TRA, 2014).

The documents needed are as follows Invoice, Parking list, TIN certificate (exporter), Agent Authorization letter, Export License, Government Revenue Receipt(GRR) as evidence of payment of royalty depending on the type of goods to be exported, export permits from relevant Authorities depending on the nature of goods to be exported; the certificates needed include: Certificates from Food and Drugs Authority, Certificates from Ministry of Agriculture for crops, Certificates from Ministry of Energy & Minerals, Certificates from Ministry of Natural Resources and Certificates of origin depending on destination of goods (EAC, SADC, EU and AGOA).

4.3.1.2 Permit from the Ministry of Agriculture and Trade

This is the permit provided by the government every three months after the assessment of food security situation in the country by the Ministry of Agriculture, Food Security, and Cooperatives showing the quantitative restriction on the amount of cereals to be exported by a trader within a specific period of time. The permit is provided on request which ought to be made by the trader through sending application to the Ministry in Dar es Salaam head office only. Sometime it takes time to get the document from other regions apart from Dar es Salaam. However, clearing agents are the ones who act as SMAEs requesting for the permits for exporting the goods, in this case they travel straight to

Dar es Salaam to request for them and having the costs incurred accrued to the clearing agents' fee. The permit costs up to 500 000 Tshs and it describes the tonnage of each cereals crop for a period of time; therefore, clearing agents use the same permit to transport SMAEs agricultural goods until the permit tonnage allocations exhausted as Fig.15 shows.



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26/02/2014

Raphael and Andrew Company Ltd.,
S.L.P. 1582,
MOSHI

YAH: KIBALI CHA KUSAFIRISHA MAZAO YA CHAKULA NJE YA NCHI

Rejea barua yako ya tarehe 24/02/2014 inayoomba kibali cha kusafirisha mazao ya chakula nje ya nchi.

Napenda kukuarifu kuwa umepewa kibali cha kusafirisha Maharagwe tani 5,000, Mahindi tani 8,000, Ulezi tani 500, Ngwala tani 2000, Karanga tani 200, Dengu tani 300, Choroko tani 300, Mbaazi tani 1000, Mtama tani 1000, Uwele tani 200 na mchele tani 3000 kwenda nchini Kenya kupitia mpaka wa Namanga kwa masharti yafuatayo:-

1. Unapaswa kufuata sheria zote za Serikali kuhusu biashara nje ya nchi.
2. Kibali hiki umepewa kwa muda utakaoishia tarehe 30 Aprili, 2014.
3. Kibali kimetolewa kwa jina lako wala si kwa jina la mtu mwingine.

Ukiwa mfanyabiashara wa kusafirisha mazao nje ya nchi, Wizara inahitaji kupata taarifa yako ya kiasi ulichoweza kusafirisha nje ya nchi kwa ajili ya kumbukumbu za kitaifa.

Karim Mtambo
Kny: KATIBU MKUU

Nakala kwa:- Mamlaka ya Chakula na Dawa Tanzania,
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S.L.P. 9053,
DAR ES SALAAM.

Katibu Tawala (M),
ARUSHA.

RAPHAEL AND ANDREW COMPANY LIMITED
P. O. Box 1582
MOSHI

Figure 15: Example of permit given to one of the clearing and forwarding agent

4.3.1.3 Certificate of atomic energy/radio activity analysis certificate

Tanzania Atomic Energy Commission under Atomic Energy Act number 7 of 2003 of the United republic of Tanzania gives the authority to the commission to conduct regular monitoring of radioactivity on the imported and exported foodstuff (URT, 2003). The TAEC in collaboration with the TRA control the import and export of foodstuffs across the Tanzania borders. Radiated food must comply with the recommended levels of radioactivity in the International Atomic Energy Agency Basic Safety Standard 115. The study findings postulate that the sample of every agricultural goods must be taken for analysis in the Atomic energy office before it is exported. However, there is only one office which is also the headquarters of Tanzania Atomic Energy Commission located 20 Km away from Arusha town and the certificate is actively functioning at Namanga border point. since, the office is only one and is located far away from the city of Arusha and the markets where Small and Medium Agro enterprises (SMAEs) are located, it is difficult for business owners to carry the sample for testing, thus clearing agents take samples to the office for analysis and the cost incurred is accrued to the clearing agents fee which eventually add to the transport costs to SMAEs who export goods to the EAC partner states. The certification itself costs a minimum of 35 000 Tshs and a maximum of 4 000 000 Tshs depending on the consignment.

4.3.1.4 Phytosanitary certificate

Sanitary and phytosanitary measures include laws, decrees, regulations, requirement, standards and procedures of protecting humans, animals or plant life or health (Jensen and Keyser, 2010). This certificate is offered by the Ministry of agriculture office in borders. The main responsibility of this office is to make inspection on crops, crop products, food products, and agricultural chemicals such as fertilizers. The office works with clearing agents after the export invoice is bought to the customs office and the goods have reached

the border; the office inspects to determine the origin of the product, whether the product is valid/fit to be exported, if the product has not been affected by any pesticides or fungi, so the agents go through the office to get a phytosanitary certificate declaring the product is okay and valid. The payment for this service is up to 30 000/=Tshs per 20tons depending on the Tshs to USD exchange rate at the time. This is also done by Clearing Agents on behalf of SMAEs and its costs is paid by SMAEs on clearing fee.

4.3.1.5 Certificate of origin

Tanzania Chamber of Commerce, Industry and Agriculture is the sole authority or issuer of all certificates of origin for products originating from Tanzania. It issues seven types of certificates namely East African Certificate of Origin, EUR1 Movement Certificate, SADC Certificate of Origin, SACU – MMTZ, SPT, AGOA and International Certificate of Origin (TCCIA, 2014)**.** However the study reveals that clearing and forwarding agents are the ones who also play a role of taking these certificates on behalf of the SMAEs.

4.3.2 Transport, clearing and forwarding

According to the reported cases to TCCIA (2014) database on Non-Tariff Barriers Monitoring Mechanism Transport, clearing and forwarding accounts for 24.24% of the reported NTBs. These information from TCCIA concur with the findings from this study. However, the current study focused on Arusha and Mwanza border points using Mutukula Border in Kagera Region whereby Small and Medium Agro-Enterprises (SMAEs) owners hire trucks to transport their agricultural goods to the EAC market particularly Kenya and Uganda and where the roads are good. The major problem in transporting the goods by road is the presence of police roadblocks. At police roadblocks, police officers stop commercial vehicles at various inter-country road blocks and at border crossings even where there is no sufficient proof that the goods being transported are of suspicious

nature. The results obtained from field observation from Arusha town and Nairobi Markets including Thika, Marikiti, and Nyamakima, on average there were 5 police check points in Tanzania as opposed to 4 found in Kenya.

Moreover, in each police check point the bribe given to police officers in Tanzania ranged from 2000 Tshs to 5000 Tshs, and in Kenya the bribe ranged from 50 Kshs to 100 Kshs. The average estimated distance between one police roadblocks to another in Tanzania using Arusha to Namanga route is 110 km, and roadblocks were found at an estimated distance ranging from 13 km to 20 km. As for Kenya, the distance from Namanga to Nairobi route is 170 km; and the roadblocks were found after every 34 km to 40 km. This implies that there are more roadblocks in Tanzania's side than is the case with the Kenyan side as Table 10 shows.

Table 10: Police Roadblocks summary

Police Roadblocks	Amount of bribe paid	Average distance between one police checkpoint to another
Tanzania	2000Ths to 5000Tshs	13 km to 20 km
Kenya	50 Kshs to 100Kshs	34 km to 40 km

Similar findings are reported by ASARECA (2009) which reveal that Beef cattle and maize traders had to incur extra costs in transportation because of corruption in all the three EAC countries of Kenya, Uganda, and Tanzania. However, other studies confirmed the same findings regarding to wastage of time and rising costs resulting from the bribes paid by truck drivers at the police roadblocks and weighbridges adding up to the total cost of doing business. The respondents repeatedly cited problems related to transportation of trade goods. They cited problems related to the varying application of axle load specifications for the on transit trucks through Kenya. Other problems cited include the costs incurred because of the presence of several weighbridges between the port of

Mombasa and Malaba/Busia and Namanga. They also complained of numerous police roadblocks, road toll charges, lengthy classification and valuation of import processes, different border opening times and lengthy procedures for issuing work permits; Namanga was cited as an example whereby the border closing time is 1800 h for the loaded trucks. This has a direct bearing on the country's competitiveness and participation in the EAC regional trade as whole (TCCIA, 2013 and Ng'ang'a, 2014).

Figure 16: Police roadblock from Arusha town to Namanga Border

Moreover, the study shows that in every roadblock, the police officers inspect the documents required for transporting agricultural goods; the same documents are inspected once again at the border points. This lead to unnecessary inconvenience to truck drivers who in order to avoid such inconveniences and save time choose to give bribe to police officers. However, the findings show that the major problem with clearing and forwarding agents is mainly on the high rates of fees they charge per every consignment.

4.3.3 Other procedural problems

From the TCCIA data obtained, there are other procedural problems, which account for 15.15% of the reported NTBs. these includes costly procedures, lengthy procedures, lack of information on procedures, complex variety of documentation required, immigration issues and inadequate trade related infrastructure (TCCIA, 2014). The findings from the current study concur with the results from TCCIA. the results from the latter also show that in most cases SMAEs owners are not aware of the procedures and actual documents required because clearing and forwarding agents are involved in every process; thus, this gives room to the clearing and forward agents to charge higher fees which are eventually added to the transport cost.

4.3.4 Technical barriers to trade

According to TCCIA data base, technical barriers to trade that have been cited in the reported NTBs include standards disparities, inadequate or unreasonable testing and certification arrangements, and restrictive technical regulations and standards not being based on international standards (TCCIA,2014). The data show that Technical barriers to trade account for 12.12% of the reported NTBs as at May 2014. However, the findings from the current study show that SMAEs who export agricultural goods to EAC countries are not affected by Technical Barrier to Trade as most of them are exporting raw agricultural goods like cereals such as maize, beans, and rice. These agricultural goods are not processed thus they don't have to comply with certain standards in labelling, packaging, and material contents of the goods.

4.3.5 Charges on imports

Among the NTBs reported to TCCIA include charges on the imports, and these accounted for 10.51% of the Total reported NTBs. There are various charges on importing any goods from outside Tanzania. However, the study focuses on exporting agricultural goods to EAC countries and not importing goods; hence this aspect was outside the scope of the Non-Tariff barrier category.

4.4 Reported Cases by Regions

The study findings show top five regions with many reported cases on NTBs, the first region is Dar es Salaam; this is followed by other regions namely Nairobi, Arusha, Shinyanga, and Kagera. The results are shown in Fig. 17. These statistics from TCCIA are congruent with the findings from the study although the study focused on Arusha to Namanga route and Mwanza to Mutukula route in Kagera. The study shows that Arusha is leading region with many reported NTBs cases as there are many SMAEs exporting commodities to Kenya as opposed to Mwanza which has no potential export activities by SMAEs, since Ugandans themselves come to purchase agricultural commodities in Tanzania.

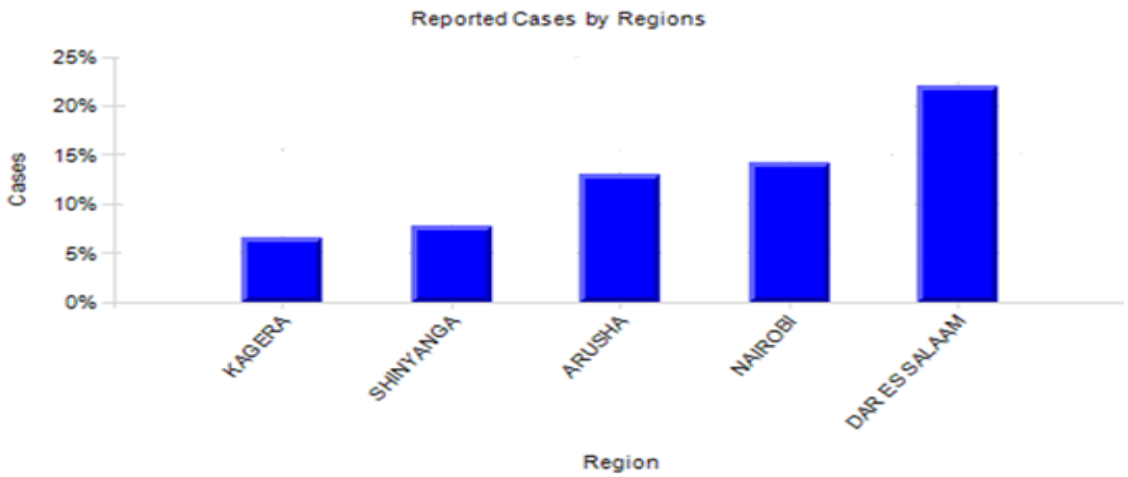

Figure 17: Reported cases of NTBs by Regions

Source: TCCIA (2014)

4.9 Recorded NTBs Events by Location

The data obtained from TCCIA show that many NTBs incidents are reported in Namanga, followed by Dar es Salaam city centre, Shinyanga, and Mutukula in Kagera. These data are in agreement with the findings from the current study. The findings show that Namanga border has vibrant export activities by SMAEs who export commodities to Kenya. Table 2 shows that Tanzania export much to Kenya followed by Uganda. The main border which is leading for cross border transportation of agricultural goods to Kenya from Tanzania is Namanga. This is because this border is near Arusha town where most agricultural goods are brought from the northern regions such as Kilimanjaro and Arusha itself and from there the closest border point for to exporting such goods is Namanga.

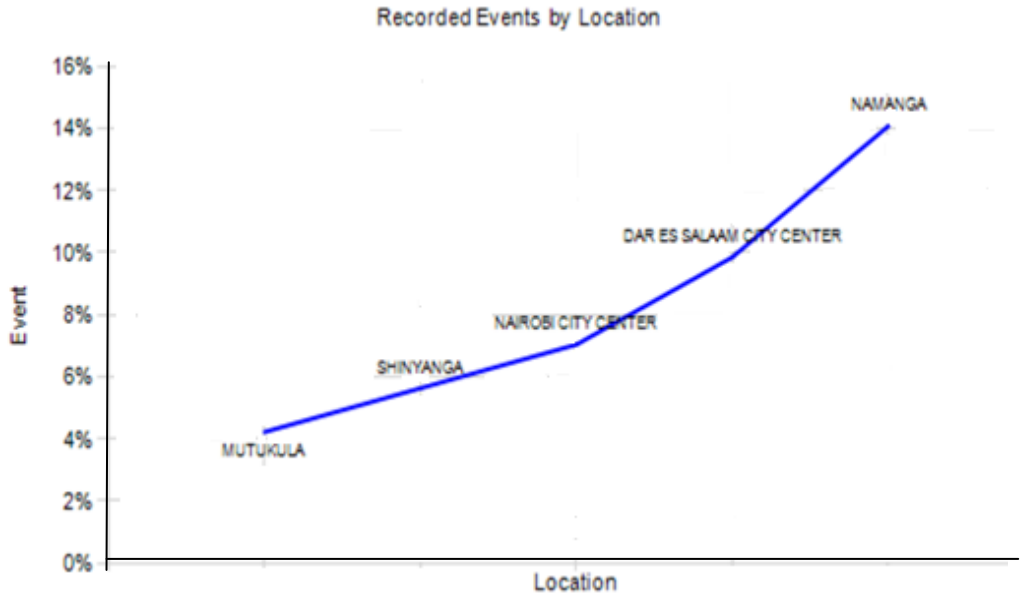

Figure 18: Records of NTBs events by Location

Source: TCCIA (2014)

4.10 Overview of the Exporting Channels of Tanzania Small and Medium Agribusiness to East Africa Community Cross Border Trade and Non-Tariff Barriers Effects

The exporting channels for Small and Medium Agro-Enterprises (SMAEs) in Tanzania engaged in East Africa Community (EAC) Cross border trade face several options of buying agricultural products to be exported. These options include buying the goods directly from the farmers, buying them through middlemen / brokers or buying them in the assembly markets, stores, or warehouses. Buying directly involves SMAEs owners going directly to the farms during harvesting period and purchases the agricultural products. Using middlemen/brokers means that SMAEs owners would use people who stand between farmers and SMAEs; the latter would not purchase agricultural goods directly from the farmers.

The other option is to purchase agricultural products from the assembly markets. In every region in Tanzania, there are Assembly markets which are organized on specific day and a place by the Municipalities. SMAEs owners also attend these markets and purchase agricultural products so that they can export them. Warehouses/Stores is another option whereby some of the store owners usually buy agricultural products in large quantities during bumper harvest and stock and then resell them during scarcity SMAEs owners also buy commodities for the purposes of exporting them. The diagram below (Fig. 19) summarizes the exporting channels used by Tanzania's SMAEs who export commodities to East Africa Community (EAC) partner states.

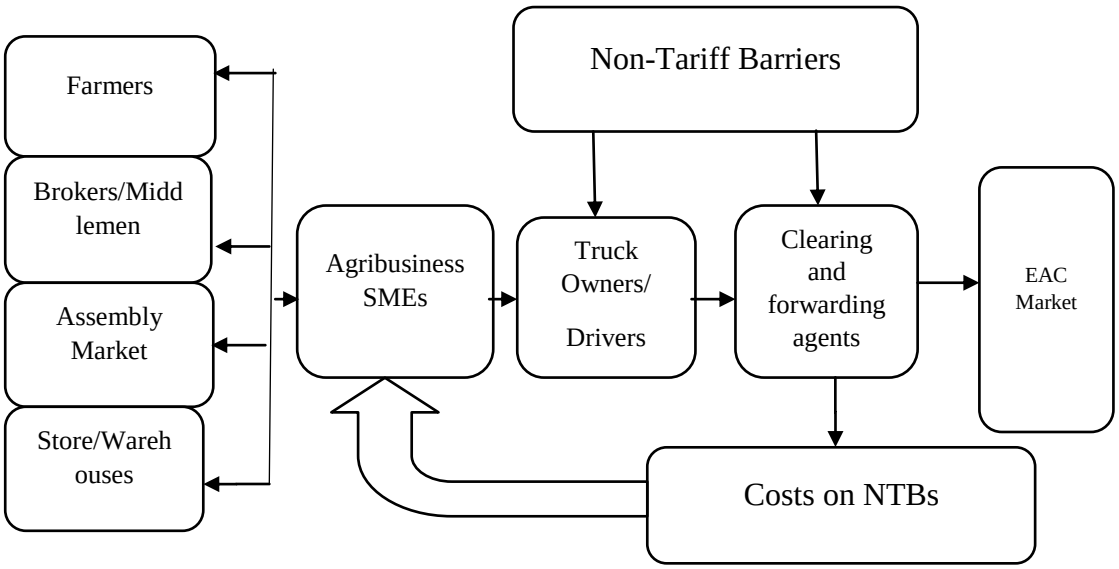

Figure 19: Exporting channels of Tanzania Small and Medium Agro-Enterprises involved in East Africa Community cross border trade

In Fig. 19 indicates that most of the Small and Medium Agro-Enterprises (SMAEs) take the option of buying agricultural products by themselves given the small capital they possess and the low quantity of agricultural products they are capable of purchasing and selling. Hence, they synergize themselves and hire one truck so that they can share the costs. After hiring the truck, the truck driver looks for the clearing agents in Tanzania and at the EAC partner states for this case Kenya and Uganda on behalf of the SMAEs, Clearing Agents in the Tanzania's side play a critical role in the process of exporting agricultural commodities. Clearing agents in Tanzania side, always act as owners of the commodities to be exported, as they have Business License and Permits from the Ministry of Agriculture, which allow them to export Agricultural commodities. Thus, when a truck is load with bags of agricultural commodities, it is considered as one consignment under one consignee who is the clearing agent in Tanzania.

The reason for this is that the Ministry of Agriculture provides export permits after every three months after food security assessment. The permit takes a long process and it is issued in Dar es Salaam only. Therefore, it costs a lot of money and time to make a

follow up. It is the is the same experience with Business registration as it is done in Dar es Salaam, which requires the applicant to travel and wait for all the process to be accomplished before he/she is assured that the business is registered. With such challenges, SMAEs are not willing and capable to bear the costs hence they avoid registering their business and leave every matter regarding the export procedures and other authorization documents needed to be shown to the police officers in the checkpoints and at the border points to the Clearing Agents.

However, the current study shows that given the small capital of SMAEs, it is difficult for them to have a formal registration of their businesses as they trade mostly during the harvest season and that their business is not well predicted sometime as it relies on how the season is. Clearing agents in Tanzania in this process also bear all the risk involved in exporting agricultural commodities as they also work on all types of inspection by taking the sample to the relevant authority such as Commission for Atomic Energy for Radioactivity Analysis, and at the Ministry of Agriculture Department office at the border for Phytosanitary requirements and all other inspection as required by the authority.

Finally, agricultural goods reach the destination market (EAC Market/ partner states) at this point the SMAEs owners would take them from there as they don't travel by trucks accompanying their goods; the SMAEs owners simply pay the truck drivers and the former would travel to the designated market to wait for latter.

Thus, whatever happens along the way is not their problem; it will be upon the truck driver to handle the agricultural products from the source to the destination including any barriers on the way as well as well dealing with clearing agents to clear out the goods at the border points. All these costs incurred by the clearing agents are paid by the truck drivers who are in turned paid by SMAEs owners as part of the transport costs during

hiring of a truck. The SMAEs pay for every bag of agricultural commodities which are to be transported by the truck hired, and the payment per bag includes the costs of clearing agents, and the truck drivers and all these are paid in full and range from 9000/= Tshs to 12 000/= Tshs with an average of 10 000/=Tshs.

Therefore, all non-tariff barriers mostly involving police check points all the way to the EAC market are dealt with by the truck drivers. On the other hand, the other non-tariff barriers are dealt with clearing agents who handle all Customs and Administrative procedures needed at the border points in all the countries. However SMAEs pay for all NTBs implicitly (Indirectly) as all the costs are covered by the amount paid for each bag of agricultural commodities loaded in the truck, this makes transport costs expensive. This implies that Clearing Agents charge high rates of fees to truck drivers as they provide all Customs and Administrative procedures, also truck drivers charge high rates for hiring trucks as they (truck drivers) will be able to cover all the costs and handle all the barriers along the way to the EAC market and remain with a profit at the end. Thus, SMAEs have to shoulder all the burden of high transportation costs per bag or tonnage.

4.5 Results of Logistic Regression Analysis

The second objective of this study was to analyze the determinants of cross border trade of Tanzania's Small and Medium Agro-enterprises (SMAEs) who trade in the East Africa Community (EAC) market. Thus the hypothesis to be tested was "Socio economic factors influence Tanzanian Small and Medium Agro-enterprises involved in the EAC cross border trade". The model was estimated using Maximum Likelihood after several application of the model using STATA version 11.0 software. However, the robust standard error was used instead of a normal standard error to correct the problem associated with heteroscedasticity. Other variables were dropped due to the following

reasons: firstly, these variables were all insignificant, secondly, the variables were not realistic as major determinants of EAC Cross Border Trade participation by Tanzania SMAEs thus they (the variables) depict a weak relationship with the dependent variables.

Table 11: Binary Logistic regression result

Variables	**Odds Ratio**	**Robust Std. Err.**	**z**	**p>z**	**[95% Conf.**	**Interval]**
Education	5.042821	3.395819	2.4	0.016**	1.34734	18.87425
Current_Capital	0.9999999	4.01E-08	2.37	0.018**	0.9999998	1
Experience	1.161288	0.1034989	1.68	0.093***	0.9751626	1.382937
Mkrt_Informartion	1.112604	1.529889	0.08	0.938	0.0751438	16.47357
Maize_Price	1.000291	0.0000987	2.95	0.003**	1.000098	1.000485
Beans_Price	0.999991	0.0000346	0.26	0.794	0.9999231	1.000059

Obsc =89, Wald chi^2 (6) = 19.03, Prob > $chi^{2=}$0.0041, Pseudo R^2 = 0.6451, Log likelihood = -16.830371

The results model summary show that the number of observations in the model was 89 out of 210 and this is because one of the variable which is 'price of beans' had 89 observations vis-a-vis other variables which had 210 observations. The main issue consists in the difficulty of dealing with the missingness. In the literature, there are different approaches; the simplest (though most naive) method is that of using the complete cases only by discarding all items with missing observations from the dataset. Then two important problems arise: First of all, information is lost, since the original sample size is reduced, which in some cases can be significantly high. Second, if the missingness depends on the data the results may be biased, depending on the missingness mechanism (Lipsitz *et al.*, 1998; Little and Rubin, 2002).

The Wald chi^2or likelihood ratio (LR) chi-square test was 19.03 implies the goodness of fit of the overall model as in an F test. The Prob > chi2, this is the probability of obtaining the chi-square statistic given that the null hypothesis is true. The p-value is compared

with a critical value, that is, 0.05 or 0.01 to determine whether or not the overall model is statistically significant. In this case, the model is statistically significant because the p-value is less than 0.05.

The variables which are significant in the model are education, experience, current capital and the price of maize at different levels of significance. The results show that education is significant at 0.1 (10%) with a log-odds ratio of 5.042821 which implies that the higher the education level the higher the chances of participating in the East Africa Community (EAC) cross border trade. This implies that, when the education level of the Small and Medium Agro-Enterprises (SMAEs) owners increases by one year, the log-odds of dependent variable that Tanzania SMAEs owners will participate in EAC cross border trade also increases by log-odd of 5.042821 *ceteris peribus.* This is true and it confirms the *priori* expectation of the sign of the variable. This trend might result from the fact that with education, one can easily understand, comply with, and tap the trading opportunities in the EAC market. This can be because of the increased ability of understanding the procedures, receiving quality market information, negotiating for better deals as well as innovative new strategies in benefiting from the EAC market, which eventually lead to positive influence in participation in the EAC cross border trade.

Current capital is significant at 0.1 (10%) with log odd ratio of 0.9999999, which means that if the current capital of SMAEs increases by one unit Tshs, the log-odds of dependent variable that Tanzania SMAEs will participate in EAC cross border trade also increases by log-odd of 0.9999999 *ceteris peribus.* The sign of the variable concurred with the priori expectation of the sign of the variable, implying that as the current capital increases the chances that SMAEs in Tanzania will participate in cross border trade also increases. This is due to the fact that with higher capital, Tanzania's SMAEs is likely to be able to

finance all costs related to trading in the EAC market and thereby increasing the level of agricultural goods exported to EAC countries.

The price of maize is significant at 0.05 (5%) with the log-odd ratio of 1.000098. The results indicate that as the price of maize increases by one unit Tshs the log-odds of dependent variable, that is, EAC cross border trade by SMAEs also increase by log-odd of 1.000098 *ceteris peribus*. The sign of this variable is also in agreement with the *prior* expectation, given the importance of maize in EAC countries as a major food crop, its demand is high and the prices offered are better in all seasons; this eventually increases its production and the volume of exports in the EAC countries.

Experience of SMAEs is significant at 0.1 (10%) with the log-odds of 1.161288. The results indicate that if the education level of SMAEs owners' increases by one year, the log-odds of dependent variable, that is, EAC cross border trade by SMAEs in Tanzania is expected to increase at 1.161288. This implies that the more SMAEs are experienced the higher the chances that these SMAEs will participate in EAC cross border trade will increase, this is because experience gives them the access to different market conditions and ability to handle different situation including knowing the right time to buy and sell and where to sell. Experience gives the owners access to potential buyers; some of the traders might get into informal contract with schools and industries after a long time experience which created networking and trust among themselves and buyers in the EAC cross border trade. Also experience leads to awareness of the demand and supply of agricultural EAC market as a whole making the trade running smoothly for Tanzania SMAEs which influence the EAC cross border trade

Market information is not statistically significant in the model; however, the results indicate that as the number of SMAEs in Tanzania receiving market information increases by one, the log-odds of dependent variable, that is, EAC cross border trade by SMAEs is also expected to increase by 1.112604 *ceteris peribus* . In other words, the positive sign means that as majority of SMAEs receive information the higher the chances that these SMAEs will be tempted to participate in the EAC cross border trade. This also comply with the *priori* sign for this variable because market information such as prices, demand and the trend of supply gives SMAEs the motivation to calculate and estimate costs and profit so as to decide on their participation in the EAC cross border trade. As they trade for earning more profit information therefore helps them to know what is needed at a given period of time and at the prices to be offered for such things. Thus, it is easy to be tempted to engage in EAC cross border trade.

The price of beans was found to be statistically insignificant; nevertheless the price of beans had a positive sign meaning that it (price of beans) was positively influencing EAC cross border trade among Tanzania's SMAEs. As the price of beans increase by one Tshs, the log-odd ratio of dependence variable EAC cross border trade would also increase by log-odd of 0.999991 *ceteris peribus*. Beans is the second most traded agricultural good by Tanzania's SMAEs in the EAC cross border trade after maize. The sign is also in agreement with the *priori* with the expected sign; the reason for this is because beans' demand is higher in Kenya than is the case with the demand beans in the local markets in Tanzania specifically in the study area. The reasons might be because in Tanzania, most farmers grow beans together with maize, thus there is always surplus output of beans in the market as opposed to Kenya which makes the demand for beans in Kenya to become higher offering good price which is likely to influence participation of Tanzania SMAEs in the EAC cross border trade.

With the given socio economic factors explained and their influence on the EAC cross border trade by Tanzania SMAEs, therefore the hypothesis "Socio economic factors influence market participation of Tanzanian Small and Medium Agro-enterprises in EAC cross border trade" failed to be rejected. This implies that Socio economic factors do influence the participation of Tanzanian Small and Medium Agro-enterprises in the EAC cross border trade.

4.6 Independent Sample T-Tests Statistics

The independent Sample t-test was used to test the hypothesis that Non-Tariff Barriers (NTBs) affect negatively the Small and Medium Agro-Enterprises (SMAEs) cross border trade. The test used the comparison of transport costs between trading to the EAC countries compared with trading locally within the country; this is because SMAEs exporting to EAC countries are mainly affected by additional transport costs contributed by the NTBs. The additional transport costs lead to higher total transport costs for those SMAEs who export to the EAC countries, which indicate the negative effect of the SMAEs cross border trade in terms of their profit and returns.

Table 12: Comparison of Transport Costs of beans between exporting to East Africa Community compared to trading locally

	Beans	N	Mean	Std. Deviation	Std. Error Mean
Transport Costs	Exported	52	1 209 900	1 179 300	163539
	Locally	39	356 560	394 603	63186.99937

Table 13: Independent Sample T-tests for transport costs for beans between trading to EAC countries and Trading locally within the country

Transport Costs for Maize	Levene's Test for Equality of Variances							95% Confidence Interval of the Difference	
	F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Equal variances assumed	12.924	.001	4.335	89	.000	853301	196833	462197	1244410
Equal variances not assumed			4.867	65.407	.000	853301	175321	503201	1203400

*Significant at 0.01

Based on Levene's Test for Equality of Variances, the t obtained is 4.867, and with 38 degrees of freedom, it is significant at least at the 0.001 alpha level. Therefore, it can be concluded that the transport costs for SMAEs exporting beans to EAC countries are differed from transport costs for SMAEs who trade locally within the country. Specifically, by scrutinizing the average difference of transport costs between SMAEs exporting to EAC countries and those who trade locally within the country, it can be concluded that on average, the transport costs incurred by SMAEs exporting to the EAC countries is 853 301/= Tshs more than the transport costs incurred by SMAEs who trade locally within the country. However, this difference is the aggregate difference by which when 25.98% of the costs attributed by NTBs is reduced then the actual difference was supposed to be 631 613/= Tshs, which will be based on the difference in distance between the two markets, that is, the EAC market and local market. But given the NTBs, the average difference has increased by 221 688/= Tshs, which means it is more costly to export agricultural goods to EAC country states than trading locally within the country.

Table 14: Comparison of Transport Costs of maize between exporting to EAC and trading locally

	Agricultural goods	N	Mean	Std. Deviation	Std. Error Mean
Transport Costs	Maize Exporting	79	2 018 900	1 820 130	204781
	Maize trading locally	84	1 197 300	886 230	96 695.64963

Table 15: Independent Sample T-tests t-test for transport costs Equality of Means for maize between trading to EAC countries and Trading locally within the country

	Levene's Test for Equality of Variances							95% Confidence Interval of the Difference	
Transport Costs for Beans	F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Equal variances assumed	18.264	.000	3.698	161	.000	821 649	222 192		
Equal variances not assumed			3.628	111.453	.000	821 649	226 463	372 919	1 270 380

Using the Levene's Test for Equality of Variances the level of significance is less than 0.05 ($p<0.01$), suggesting that equal variances among the two groups is not assumed. Thus, the t obtained is 3.628, and with 111.453 degrees of freedom, it is significant at least at the 0.001 alpha level. Therefore, it can be concluded that the transport costs for SMAEs exporting maize to EAC countries differed from the transport costs for SMAEs trade locally within the country. More specifically, by examining the group means and the mean difference between the SMAEs exporting maize to EAC countries and the SMAEs who trading locally within the country, it can be said that on average, the transport costs incurred by the SMAEs exporting maize to EAC countries is 821 649/= Tshs more than the transport costs incurred by SMAEs who trade locally within the country.

This difference is the aggregate difference whereby if 25.98% of the costs attributed by NTBs is reduced then the actual difference was supposed to be 608 185/= Tshs which would be based on the difference in distance between the two markets, that is, the EAC market and the local market. However given the NTBs, the average difference has increased by 213 464/= Tshs which means that it is more costly to export agricultural goods to EAC country states than is the case in trading agricultural goods locally and this is basically because of NTBs.

Table 16: Comparison of Transport Costs of Rice between exporting to EAC compared to trading locally

Transport Costs of Rice	N	Mean	Std. Deviation	Std. Error Mean
Exported	5	855000	496059	221,845
Locally	5	125700	77869.76307	34824.41672

Table 17: Independent Sample T-tests t-test for transport costs Equality of Means for Rice between trading to EAC countries and Trading locally within the country

Transport Costs for Rice	Levene's Test for Equality of Variances							95% Confidence Interval of the Difference	
	F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Equal variances assumed	2.852	.130	3.248	8	.012	729300	224561	211461	1 247 140
Equal variances not assumed			3.248	4.197	.029	729300	224561	117193	1341410

Using the Levene's Test for Equality of Variances at 0.01 level of significance, the level of significance is 0.130 which is larger 0.01 ($p>0.01$) indicating equal variances are assumed between the two groups compared. This implies that there is no significance difference between transport costs incurred by SMAEs exporting to EAC countries and the transport costs of those who trade locally. This might be due to the lower volume of agricultural goods being exported by Tanzanian SMAEs than is the case with the Uganda's SMAEs who purchase rice directly from Tanzania and import the commodity to Uganda. this might also be attributed by the means of transport through which some of the SMAEs in Tanzania export their rice to Uganda, which involves the Lake using Mwanza South port whereby after paying the shipping, cost there are no any other barriers encountered until the destination point in Uganda.

With all the independent sample t test of each agricultural good studied, it can be concluded that there is a statistical difference in the average means of transport costs of beans and maize between SMAEs exporting agricultural goods to EAC and SMAEs who trade locally at $p<0.01$ level of significance. The transport costs for SMAEs exporting agricultural goods to EAC are higher than the transport costs of SMAEs who trade locally; and the difference is based on the distance and other additional transport costs. However, SMAEs who export agricultural goods to EAC face additional transport costs resulting from NTBs which lead to an increase in the total transport costs. Therefore, the null hypothesis that "the existing EAC NTBs have a negative influence to Tanzanian SMAEs' cross border trade" has failed to be rejected.

On the other hand, the statistical analysis for rice shows no statistical difference between exporting to EAC and trading locally within the country at $p<0.01$ level of significance. Thus, there are no additional costs which might be attributed by NTBs for rice. Therefore,

the null hypothesis that "the existing EAC NTBs have a negative influence on the Tanzanian SMAEs' cross border trade" is rejected.

4.7 Effect of existing East Africa Community's Non-Tariff Barriers on Small and Medium Agro-Enterprises cross border trade in Tanzania

Not all trade requirements (Laws, regulations, procedures and practices have a significant impact or effect on trade (EAC, 2006). Following this notion, the study has focused and analyzed those TBS which have a significant negative effect on the ability of SMAEs in Tanzania to trade within the region.

4.8 Results of Costs and Benefit Analysis

Costs and Benefit analysis method was used to analyze the effect of the existing East Africa Community (EAC) Non-tariff Barriers (NTBs) on Small and Medium Agro-Enterprises (SMAEs) cross border trade in Tanzania. The results of Costs and Benefit analysis are as shown on Table 18 and Table 19.

The results show that for the SMAEs exporting agricultural goods to EAC partner states, maize was found to have the greatest NPV of 1 493 742 170.68/=Tshs followed by rice 1 120 132 841.95/= Tshs and then beans at 690 569 747.07/= Tshs. This is because maize is the main staple food in the region and maize is a major source of food in the region therefore most of the farmers grow the crop since it requires short period of time to mature compared to other food crops, also its constant demand in the EAC market encourage many farmers to grow the crop for cash and for food. Moreover NPV for maize for SMAEs exporting to EAC partner states is higher than the NPV of the crop for SMAEs who trade locally within the country and particularly in the Arusha Region as results in Table 18 and Table 19 show.

However, according to Guthiga *et al.* (2012), there is the presence of maize surplus areas in Uganda and Tanzania and deficit areas in Kenya. This study observed that maize attracts maize intra-trade activities in the region as it offers good price in the market and it is convenience in the production process by Tanzania SMAEs exporting to Kenya. Therefore most of the SMAEs trade large quantities of maize as opposed to the quantities of beans and rice exported to Kenya which in turn gives them greater profit and eventually greater Net Present value.

Rice is the second highest traded agricultural product after maize. Although there is low level of exports of agricultural products to Uganda by Tanzania's SMAEs, given the presence of few SMAEs exporting rice to Uganda, they (SMAEs) basically enjoy higher returns obtained, especially because they (SMAEs) buy from several places at lower prices in Mwanza and Shinyanga and sell the product at higher price in Uganda. On the other hand, the NPV for SMAEs who export rice to Uganda is 1 120 132 841.95/=Tshs higher than the NPV for SMAEs who trade locally as the results in Table 18 and Table 19 show. It means that exporting rice to Uganda is more profitable than selling the product locally and this might be due to the fact that in Mwanza there is a surplus of rice as the product is brought from various neighbouring regions which make the price to go down.

Beans is another agricultural product exported to the EAC countries; despite its NPV being the lowest among the three, beans still offers higher NPV especially for those who export the product to the EAC countries as Table 18 and Table 19 show. The reasons for this is that beans is not the main food like maize, which means there is an alternative for beans such as different types of peas including pigeon peas (*Cajanus cajan*), cowpeas (*Vigna unguiculata*) and a variety of vegetables which consumers in East Africa may use as a substitute of beans.

Generally for SMAEs trading locally within the country, beans has higher NPV followed by maize and rice and the reasons could be due to the fact that at least every farmer in Tanzania for one reason or another grows maize for food security; beans is grown but in smaller scale than is the case with maize which make the price of beans to be higher than that of maize. Moreover, rice is highly grown in Tanzania and as a result it is in abundant supply in different regions making its price to go down and eventually leading to low NPV.

Table 18: Estimated Average Costs and Benefits exported to EAC partner states (n=105)

	Agricultural crops and their net present values		
	Maize	Beans	Rice
		Monetary value (Tshs)	**Monetary value (Tshs)**
Costs and Benefits	**Monetary value (Tshs)**		
COSTS			
Quantity purchased	304.2405063	147.5769231	252.5
Buying price (Tshs/bag, 1bag=100Kg)	51743.67089	117019.2308	56750
Total Costs of Buying	15773601.27	17206346.15	14450000
Labour costs to pack and unload	325696.2025	161961.5385	202500
Transport costs/hiring a truck	**2018911.392****	**1209865.385****	**855000****
Information costs	40405.06329	23211.53846	25000
Accommodation and Meals	75000	75000	70000
Travelling Costs	38000	38000	32000
Total Costs	**18271613.92**	**18831551.42**	15634500
BENEFITS/RETURNS			
Quantity sold (per bags, Ibag =100Kg)	304.2405063	147.5769231	252.5
Selling price (Tshs)	94072.51899	159519.2308	84000
Total Revenue	**28780452.15**	**23784038.46**	**23925000**
Net Returns/Benefits	10,508,838.23	4,969,596.75	8,322,500
Net Present Value (NPV)*	**1 493 742170.68***	**690 569747.07***	**1 120 132 841.99***

*NPV are for ten years time horizon using discount rate of 16% and their calculations for each crop are found in appendixes

Table 19: Estimated Average Costs and Benefits traded locally within the country (n=105)

	Agricultural crops and their net present values		
	Maize	Beans	Rice
Costs and Benefits	**Monetary value (Tshs)**	**Monetary value (Tshs)**	**Monetary value (Tshs)**
COSTS			
Quantity purchased	390.8809524	118.0769231	53
Buying price (Tshs / bags, 1bag=100Kg)	47849.40476	108940.5128	92000
Total Costs of Buying	**18787145.83**	**13028051.28**	**5200000**
Labour costs to pack and unload	390445.2381	118076.9231	186400
Transport costs/hiring a truck	**1197261.905****	**356564.1026****	125700
Information costs	16333.33333	10820.51282	8000
Accommodation and Meals	16333.33333	11461.53846	10000
Travelling Costs	16714.28571	11307.69231	10000
Municipal Council			121000
Total Costs	**20424233.93**	**13536282.05**	**5661100**
BENEFITS/RETURNS			
Quantity sold (per bags, Ibag =100Kg)	390.8809524	118.0769231	53
Selling price (Tshs)	57000	143107.6923	111200
Total Revenue	**22,347,750**	**17,119,384.62**	**6,344,000**
Net Returns/Benefits	**254,003,722***	**494,638,493.1***	**74,118,331.35***
Net Present Value (NPV)*			

*NPV are for ten years time horizon using discount rate of 16% and their calculations for each crop are found in appendixes

4.9 Computation of Additional Transport Costs by SMAEs Exporting to EAC Countries

Additional transport costs attributed by NTBs were calculated based on the field survey and interview. It was observed that a truck with a capacity of 16 tons is capable of carrying 160 bags of maize and beans; the total average costs which is charged for either beans or maize is 10 000/= Tshs per bag. The costs cover everything including clearing fee and police roadblocks (Bribe) up to the country of destination particularly Kenya because these are the main NTBs which SMAEs face in the EAC cross border trade. the average total clearance fee for both Kenya and Tanzania is 250 000/= Tshs clearance, which involve the costs of all documentation required by the Tanzania's SMAEs to export their agricultural goods to EAC countries as well as other charges such as Municipal council tariffs. the average police roadblocks from Arusha to Nairobi were 10 and a maximum of 5000/= Tshsis paid at each police roadblock in Tanzania and a maximum of 100/=Kshs, which is equal to 2000/=Tshs (Exchange rate of 1Kshs = 20 Tshs) is paid at each police roadblock in Kenya (see Table 20) which make the total costs resulting from payments in bribes at police roadblocks per trip to reach an averagely of 80 000/=Tshs.

All these costs were aggregated per 16 tons truck of 160 bags, and the total costs were divided per each bag and the summary is provided in Table 20. The transport costs for rice was not computed because of the small number SMAEs interviewed in this study since there is low volume of exports of rice to Uganda as compared to Kenya. Thus there was no statistically significant difference in the transport costs between those who export and those who trade locally. Therefore, the analysis of the effect of NTBs could not be realistic.

Table 20: Computation of additional transport costs attributed by NTBs for SMAEs exporting to EAC countries

Costs (per trip)	Maize (Tshs/ bag)	Beans(Tshs/ bag)
Actual Transport costs	7937.5	7937.5
Additional Transport costs		
Police Bribe	500	500
Clearing and Forwarding fee (Kenya & Tanzania)	1 562.5	1 562.5
Total additional Transport costs	2 062.5	2062.5
Total additional Transport costs (In percentage)	**25.98***	**25.98***
Total Transport cost per bag	10 000	10 000

4.10 Effects of Additional Transport Costs Contributed by Non-Tariff Barriers on Net Present Value

The results show that when additional transport costs of 25.98% resulting from Non-Tariff Barriers for maize is reduced, the Net Present Value (NPV) will increase by 5.09%, which implies that the current additional transport costs resulting from Non-Tariff Barriers (NTBs) affect the NPV of SMAEs who export agricultural products to the East Africa Community (EAC) partner states by 5.09%. Thus, the reduction of barriers would lead to an increase the SMAEs profit for exporting maize to EAC country. This is because maize is most widely traded in the region and its demand increases time to time. Tanzania exports large amount of maize to Kenya followed by Uganda, thus the reduction of Non-Tariff Barriers would favour Tanzania SMAEs doing business in these countries.

In another study by Karugia *et al.* (2009) on the effects of the impact of Non-tariff Barriers on maize and beef trade in East Africa, it was pointed out that the cost of NTBs for maize trade in Kenya accounted for approximately 35 % of the total maize transfer cost. The situation is much worse in Uganda where the NTBs accounted for over 50 % of

the total maize transfer cost. However, in Tanzania, only 12 % of the total maize transfer costs were attributed to NTBs. The findings from Karugia *et al*. (2009) conclude that NTBs are an important component of the transfer costs of both maize and beef cattle trade within the EAC; this indicates that the NTBs faced by agricultural trade of cereals crops result to an increase of the transport costs which eventually affect the returns and profit of SMAEs who export to the EAC partner states. In other words, the reduction on the additional transport costs resulting from NTBs and NPV for beans increase by 8.0%; and this implies that these additional transport costs affect the NPV of SMAEs exporting beans to Kenya by 8.0%.

Table 21: Effects of reduction of additional transport costs on SMAEs exporting to EAC countries

NPV	**Maize**	**Beans**
NPV before reduction of additional transport costs	1 493 742.68	690 569 747.07
NPV after reduction of additional transport costs	**1 569 794 916***	**750 653 548.99***
Differences in Transport Costs (Effects)	76 052 745	60 083801.92
Differences in Transport Costs (Percentage)	5.09	8.0

*Reduced by 25.98%

4.11 Challenges in Small and Medium Agro-Enterprises Cross Border Trade in Tanzania with East Africa Community Partner States

Among the challenges which were observed in the study during focus group discussion with Small and Medium Agro-Enterprises (SMAEs), and other key informants were as follows; the frequent Agricultural trade policy reversal of import and export ban. Due to the sensitivity of food security in the country, trading in agricultural products is difficult and unpredictable. This is because in Tanzania the permit to export agricultural commodity is provided by the Ministry of Agriculture and Cooperative after assessing the

food security situation in the country and get assured that there is surplus production of such commodities. Then the Ministry provides quota allocations on each agricultural commodity to be exported such as maize, beans, and rice. The permit is given after every three months, and the assessment of food security situation is a continuous exercise even if the permit has been provided, the government may impose an export ban at any time whenever it is deemed necessary. This trend has severe consequences to SMAEs engaged in East Africa Community (EAC) Cross Border Trade.

Export ban which is imposed by Tanzania's government encourage smuggling of these agricultural commodities, because in some cases, when the neighbouring countries face food shortages then the demand of food from Tanzania becomes high and thereby leading to better prices exporting these commodities than trading them domestically. Such prices encourage SMAEs in Tanzania to trade these commodities across the border.

Another major challenge is information asymmetry among SMAEs in Tanzania, there is insufficient information on the availability of markets, prices and some other relevant information which would be helpful to Tanzania's SMAEs doing cross border trade.

CHAPTER FIVE

5.0 CONCLUSIONS AND RECOMENDATIONS

5.1 Conclusions

The main objective of the study was to assess the existing non-trade barriers in the East African Community (EAC) and their effects on small and medium agro-enterprises (SMAE'S) doing cross border trade in Tanzania. The main aim was to provide policy recommendations which would improve trade performance which would increase profits to SMAEs doing EAC cross border trade. The study focused on the Non-Tariff Barriers specifically affecting the Tanzania's SMAEs engaged in the EAC cross border trade. The study observed that Non-Tariff Barriers affect negatively Small and Medium Agro-Enterprises doing Cross border trade, the negative effects are mainly through additional costs resulting from NTBs. Therefore, it can be concluded that the negative effects of NTBs reduce profits earned from the trade by around 26 % through the costs of transport.

The analysis shows that there is potential profit from trade of agricultural commodities to EAC countries by Tanzania SMAEs which is yet to be taped. in all the comparative analyses done in this study using Cost and Benefit Analysis to compare the Net Present value of the three agricultural commodities namely maize, beans and rice traded to EAC countries and similar commodities traded locally within the country, have shown that in all three agricultural commodities, the Net Present Values for EAC Cross Border Trade were bigger than the Net Present Values of the commodities traded locally within the country. This means that from the ground theory of this study stipulated earlier in the Customs Union Theory, the performance of EAC cross border trade is inhibited by NTBs.

The structure and characteristics of Tanzanian Small and Medium Agro-Enterprises engaged in East Africa Community cross border trade: Tanzania Small and Medium Agro-Enterprises (SMAEs) engaging in East Africa Community (EAC) cross border trade and Tanzanian Small and Medium Agro-Enterprises engaged in the domestic trade of the same commodities are significantly different in terms of education, the amount of capital and the profits earned. SMAEs who export to EAC countries were found to be more educated, have higher capital and earn more profit that is the case with those who trade the same commodities locally within the country.

The determinants of Tanzanian Small and Medium Agro-enterprises in East Africa Community cross border trade: The results from the study show that all the hypothesized variables, which stood as the determinants of Tanzanian Small and Medium Agro-enterprises (SMAEs) in East Africa Community (EAC) cross border trade were founds to be statistically significant at different level of significance. Such variables include education, experience; current capital and price of maize. Market information and price of maize were not statistically significant, however all the variables used in the model, were found to determine positively Tanzanian Small and Medium Agro-enterprises (SMAEs) in EAC cross border trade.

Existing Non-Tariff Barriers affecting Tanzanian Small and Medium Agro-enterprises aiming at trading in the East Africa Community market: The results show that Non-Tariff Barriers (NTBs) that affect Tanzanian Small and Medium Agro-Enterprises (SMAEs) in East Africa Community (EAC) cross border trade are mainly customs and administrative procedures, transport, clearing and forwarding, , and other technical barriers to trade. Therefore, the study concludes that the most severe of these NTB that Tanzanian SMAEs face include customs and administrative procedures

whereby SMAEs are subjected to dealing with various documents before they export agricultural goods to EAC countries. Other NTB affecting them is t transport, clearing and forwarding which demand SMAEs to use clearing agents who play a great role in providing all the required documents for exporting agricultural goods and charge high clearing fees. There are also charges for hiring a truck which are paid either per ton or per bag and the costs charged include bribes to the police officers at road blocks all the way to the destination; this therefore, results into an increase in the transportation cost.

5.2 Recommendations

(a) Policy recommendations for the ministry of agriculture: Among the barriers Small and Medium Agro-Enterprises (SMAEs) face in exporting their agricultural goods to East Africa Community (EAC) partner states include possession of permit from the Ministry, and this compels the SMAEs to make use of clearing agents who already possess the permits. This leads to an increase of clearing fee at the border points, because clearing agents also take advantage of owning the permits and charge the clients highly to compensate for the charges incurred in obtaining the permits and their operational fee. The permit is only issued in Dar es Salaam and one has to travel to get it, this is a limitation among the SMAEs owners. Therefore it is important for the Ministry to devise the best way of handling the export permits through the ministerial offices located in the regions and districts. This will enable SMAEs access all the necessary documents required to export agricultural goods and thus simplifying the authorization of exporting agricultural commodities and reducing the costs of clearing fees.

However, the Ministry of Agriculture in collaboration with Tanzania Chamber of Commerce Industry and Trade (TCCIA), which is responsible in providing certificate of origin; and the Atomic Energy Commission (TAEC), which provide the certificates of

radioactivity analysis should discharge their services in one point office where the SMAEs may be able to acquire all the permits offered by these institutions. This will enable SMAEs to formalize their activities, reduce the cost they pay as fee to clearing agents and eventually earn more profit. Also the government will able to access appropriate data and information regarding to the Tanzania SMAEs engaged in EAC cross border trade.

(b) Business Registration and License Agency: All Small and Medium Agro-Enterprises (SMAEs) interviewed in this study were not registered as Business enterprises as they trade their commodities using permits provided by the clearing agents. This is because Business Registration and License Agency (BRELA) office is located in Dar es Salaam;, thus, any enterprises who is required to be registered has to obtain all the permits and some of the documents from Dar es Salaam; this compel SMAEs owners to travel to Dar es Salaam to obtain the permits. However, since their businesses mainly depend on seasonal variations of weather they find it not relevant to register their business and pay the taxes while in some of the seasons they won't make any profit. Lastly because their volume of trade is very low they don't any value in registering their businesses. Therefore, it is important for BRELA to start operations in the regions and districts, and being able to be accessed by business enterprises. This would help in making the number of registered business enterprises rise and be known.

(a) Ministry of Industry and Trade: There should be a way on making cross border trade more formal and create an environment whereby Small and Medium Agro-Enterprises (SMAEs) can trade smoothly. The results show that SMAEs are not even aware of the responsibilities of the Ministry of Industry and Trade as they leave everything to the clearing agents. Thus, there is loss of crucial information and statistics

on their economic contribution and overall trading activities within the region. One of the ways would be to establish some database and platform of their trading activities in East Africa Community (EAC) cross border trade.

(b) East African Community Secretariat: EAC must strengthen a mechanism put forward in eliminating the Non-Tariff Barriers (NTBs) within the region and create competitive environment for every member of East Africa Community (EAC) to do business. This can be realized through establishment of one custom single border point project in all the borders in the region, so as to reduce the time loss and procedures for cargo clearing at the border. This project is now under way, and what is needed is speeding up of the construction of the building. However, the reporting mechanism of NTBS by Small and Medium Agro-Enterprises (SMAEs) to EAC must be reviewed and monitored carefully so as to help SMAEs engaged in EAC cross border trade to report any NTB regarding time wastage. The results show that despite all the efforts done by TCCIA and EAC NTBs monitoring mechanism, SMAEs owners are not able to report NTBs; one reason for this is that they are not registered; so they are even afraid of making any contact with any authority. Also EAC should advise the governments of all partner states to harmonize police roadblocks at least to reduce them into few police roadblocks with specific concerns and issues to be inspected officially. Thus, the EAC need to create a mechanism of acknowledging SMAEs contribution and formulate policies which are geared at improving performance of SMAEs sector and safeguard SMAEs interests. Also the EAC need to formulate Agribusiness trade platform to enable trading activities within the region Cross border trade run smoothly.

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APPENDICES

Appendix 1: Questionnaire for Small and Medium Agro- enterprises exporting to EAC countries

Date of interview_____

1.0 BASIC INFORMATION

1.1	Social economic and demographic characteristics	
A01.	Region	
A02.	District	
A03.	Location	
A04.	Sex	*1. Male 2. Female*
A05.	Age	*……years*
A06.	Education	*1=None 2=Primary 3= Secondary 4. University/college 5=Others (Specify)*
A07.	Marital status	*1=Single 2=Married 3=Divorced 4. Widowed 5=Separated*
A08.	Major occupation	*1=Farming 2= Livestock keeping 3=Employed 4=Trader 5=Others (Specify)*
A09.	Apart from trading what is the other major activity you are doing	*1=Farming and Livestock keeping 2= Employed 3=Other business 4= Others (Specify), 9=Missing*
A10.	Form of enterprise ownership	*1=Sole proprietorship 2=Partnership 3= Association/group*
A11.	Reasons for starting a business	*1=Gain more income 2=*
A12.	What was your initial capital of your enterprise?	
A13.	What is the capital of your enterprise at the moment?	
A14.	How did you secure your initial capital?	*1=Own saving 2.Not own saving*
A15.	If your initial capital was not your own savings where did you obtain the capital?	*1=SACCOS 2=Friends and relative 3=Money lender 4= Others*
A16.	Did you attend specific training on small business management?	*1=Yes 2= No*
A17.	How long was the training?	*1=one month 2=more than a month 3= less than a month*
A18.	Was the training formal or informal?	*1= Formal 2=Informal*
A19.	For how long have you been in this business (Experience)?	
A20.	Are you a member of any trade association	*1=Yes, 2=No*
A21	Do you normally get market	*1=Yes, 2=No*

	information?	
A22	How do you normally get pricing information?	1. *Direct visit to market [ ] 2. Fellow traders [ ] 3. Newspaper radio/TV [ ] 4. Others [ ] (Specify)……*
A23.	What factors do you consider in setting prices?	*1=Cost incurred, 2= Supply and Demand forces, 3= Others (Specify)*
A24.	Which border are you normally using to transport your products	

2.0 STRUCTURE, CHARACTERISTICS OF SMAEs BUSINESS ENTERPRISES IN TANZANIA TRADING WITH EAC PARTNER STATES

A25	What products do you deal with?	*1=Maize, 2= Rice, 3= Beans 4= Vegetables 5= Others*
A26	From whom do you buy the products?	*1= Direct from farmers, 2=Assembly markets, 3=Middlemen, 4=Wholesaler, 5=Others (specify)*
A27	Which countries in EAC do you sell your products?	*1=Kenya, 2= Uganda, 3=Burundi, 4=Rwanda*
A28	What is the name of the market you sell at the country you have mentioned	
A29	To whom do you sell your products?	*1= Whole sellers, 2= Retailers, 3=Direct to consumers*
A30	Do you transport the products on your own ?	*1=Yes, 2= No*
A31	If No are you hiring the truck for transporting your products	*1=Yes, 2= No*
A32	Are you making clearing on your own	*1=Yes, 2= No*
A33	If No are you using clearing agents at the border ?	*1=Yes, 2= No*

3.0 MARKETING COSTS

Indicate costs of different operations in trade

Type of operation	**Types of product**			
	Beans	*Maize*	*Rice*	
Quantity purchased(kg)				…….....
Buying price (Tshs)				
Labor costs to pack and unload				
Transport costs/hiring a truck				
Clearing agent fees				
Information costs				
Others (Specify)				

Non-Tariff Barrier Costs (All these are per one consignment)

Registration, license fees				
Certificate of Origin charges				
Charges and fees at border				
Quality inspection fees				
Customs Offices charges				
Police officers at road blocks (How much bribe per trip)				
Weighbridge charges				
Loss of business opportunities due to delay at border points(How many sales or agreement are canceled due to barriers)				
Wasted agricultural products(Kg) due to delay at border				
Cost of time lost (Hours) per trip to designated countries due to barriers				
Unexpected fees without prior information				
Others				

4.0 SALESTO EAC MEMBER COUNTRIES (A37-A38)

Type of operation	**Types of product**			
	Beans	*Maize*	*Rice*	
Quantity sold (kg)	……...	……	……	…….....
Selling price (Tshs)				

6.0 IN CASE OF CONTRACT (A51-A53)

Do you have any contractual agreement with buyers of products ? 1.Yes [ ] 2.No [ ]	If yes indicate the kind of agreement 1= Formal agreement [ ], 2= Informal contracts [ ]
What does the contract specify ? [ ] Price…… [ ] Quality…… [ ] Time……	

Any opinion regarding to barriers you are facing in cross border trade to EAC market

……
……
……
……

Appendix 2: Questionnaire for Small and Medium Agro- enterprises who trade within the country

Date of interview_____

1.0 BASIC INFORMATION

1.1	Social economic and demographic characteristics	
A01.	Region	
A02.	District	
A03.	Location	
A04.	Sex	*1. Male 2. Female*
A05.	Age	*……….years*
A06.	Education	*1=None 2=Primary 3= Secondary 4. University/college 5=Others (Specify)*
A07.	Marital status	*1=Single 2=Married 3=Divorced 4. Widowed 5=Separated*
A08.	Major occupation	*1=Farming 2= Livestock keeping 3=Employed 4=Trader 5=Others (Specify)*
A09.	Apart from trading what is the other major activity you are doing	*1=Farming and Livestock keeping 2= Employed 3=Other business 4= Others (Specify), 9=Missing*
A10.	Form of enterprise ownership	*1=Sole proprietorship 2=Partnership 3= Association/group*
A11.	Reasons for starting a business	*1=Gain more income 2=*
A12.	What was your initial capital of your enterprise ?	
A13.	What is the capital of your enterprise at the moment?	
A14.	How did you secure your initial capital ?	*1=Own saving 2.Not own saving*
A15.	If your initial capital was not your own savings where did you obtain the capital ?	*1=SACCOS 2=Friends and relative 3=Money lender 4= Others*
A16.	Did you attend specific training on small business management ?	*1=Yes 2= No*
A17.	How long was the training ?	*1=one month 2=more than a month 3= less than a month*
A18.	Was the training formal or informal?	*1= Formal 2=Informal*
A19.	For how long have you been in this business (Experience)?	
A20.	Are you a member of any trade association	*1=Yes, 2=No*
A21	Do you normally get market information?	*1=Yes, 2=No*
A22	How do you normally get	*1. Direct visit to market [ ] 2. Fellow*

	pricing information?	*traders [ ] 3. Newspaper radio/TV [ ] 4. Others [ ] (Specify)……*
A23.	What factors do you consider in setting prices?	*1=Cost incurred, 2= Supply and Demand forces, 3= Others (Specify)*
A24.	Which border are you normally using to transport your products	

2.0 STRUCTURE, CHARACTERISTICS OF SMAEs BUSINESS ENTERPRISES IN TANZANIA TRADING WITH EAC PARTNER STATES

A25	What products do you deal with?	*1=Maize, 2= Rice, 3= Beans 4= Vegetables 5= Others*
A26	From whom do you buy the products?	*1= Direct from farmers, 2=Assembly markets, 3=Middlemen, 4=Wholesaler, 5=Others (specify)*
A27	Which region do you sell your products?	
A28	What is the name of the market you sell at the country you have mentioned	
A29	To whom do you sell your products?	*1= Whole sellers, 2= Retailers, 3=Direct to consumers*
A30	Do you transport the products on your own ?	*1=Yes, 2= No*
A31	If No are you hiring the truck for transporting your products	*1=Yes, 2= No*

3.0 MARKETING COSTS

Indicate costs of different operations in trade

Type of operation	**Types of product**			
	Beans	*Maize*	*Rice*	
Quantity purchased(kg)				…….....
Buying price (Tshs)				
Labor costs to pack and unload				
Transport costs/hiring a truck				
Information costs				
Others (Specify)				

4.0 SALESWITHIN THE COUNTRY (A37-A38)

Type of operation	**Types of product**			
	Beans	*Maize*	*Rice*	
Quantity sold (kg)	……...	……	……	…….....
Selling price (Tshs)				
Estimated Profit				

6.0 IN CASE OF CONTRACT (A51-A53)

Do you have any contractual agreement with buyers of products ? 1.Yes [ ] 2.No [ ]	If yes indicate the kind of agreement 1= Formal agreement [ ], 2= Informal contracts [ ]
What does the contract specify ? [ ] Price…… [ ] Quality……. [ ] Time…….	

Appendix 3: Checklists for Key Informants in various offices and Institutions

Name of the Institution/Office……..

General Information

1. Roles of the office/Institutions in EAC cross Border Trade

   ……

   ……

2. Awareness of the office/institutions on EAC Cross Border Trade and NTBs

   ……

   ……

3. What are the strategies for eliminations of NTBs by the institutions/office?

   ……

   ……

4. What are the challenges faced by the institutions in eliminations of EAC Cross Border Trade NTBs?

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5. What are the current situation of NTBs in Cross Border Trade?

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6. What are the linkages of the office/ Institutions with EAC secretariat directorate of Trade?

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7. What are the possible suggestions and recommendations put forward by the office/ institutions toward eliminations of NTBs in EAC Cross Border Trade?

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THANK YOU !!!

Appendix 4: Calculations of NPV for each Agricultural goods involved in the study

Net Present Value for SMAEs trading Maize to EAC countries

Year	0	1	2	3	4	5	6	7	8	9	10
	-3.00E+07	315265146.8	3.15E+08	3.15E+08	3.15E+08	315265146.8	3.15E+08	3.15E+08	315265146.8	3.15E+08	3.15E+08
Discount factor	1	1.16	1.3456	1.560896	1.810639	2.100341658	2.436396	2.82622	3.278414892	3.802961	4.411435
Discounted Net cash flow	**-3.00E+07**	**271780299**	**2.34E+08**	**2.02E+08**	**1.74E+08**	**150101839.7**	**1.29E+08**	**1.12E+08**	**96163895.43**	**82899910**	**71465440**

Summation of Net Cash Flow = NPV =1 493 742 170.68

Net Present Value for SMAEs trading Beans to EAC countries

Year	0	1	2	3	4	5	6	7	8	9	10
	-3.00E+07	149087902.5	1.49E+08	1.49E+08	1.49E+08	149087902.5	1.49E+08	1.49E+08	149087902.5	1.49E+08	1.49E+08
Discount factor	1	1.16	1.3456	1.560896	1.810639	2.100341658	2.436396	2.82622	3.278414892	3.802961	4.411435
Discounted Net cash flow	**-3.00E+07**	**128524053.9**	**1.11E+08**	**95514309**	**82339921**	**70982690.82**	**61191975**	**52751702**	**45475605.56**	**39203108**	**33795783**

Summation of Net Cash Flow = NPV =690 569 747.07

Net Present Value for SMAEs trading Rice to EAC countries

Year	0	1	2	3	4	5	6	7	8	9	10
	-30006000	249675000	2.5E+08	2.5E+08	2.5E+08	249675000	2.5E+08	2.5E+08	249675000	2.5E+08	2.5E+08
Discount factor	1	1.16	1.3456	1.560896	1.810639	2.100341658	2.436396	2.82622	3.278414892	3.802961	4.411435
Discounted Net cash flow	**-30006000**	**215237069**	**1.86E+08**	**1.6E+08**	**1.38E+08**	**118873517.1**	**1.02E+08**	**88342388**	**76157230.93**	**65652785**	**56597229**

Summation of Net Cash Flow = NPV =1 120 132 841.99

Net Present Value for SMAEs trading Maize locally within the country

Year	0	1	2	3	4	5	6	7	8	9	10
	-24900000	57705482	57705482	57705482	57705482.14	57705482.1	57705482	57705482	57705482	57705482	57705482
Discount factor	1	1.16	1.3456	1.560896	1.81063936	2.10034166	2.436396	2.82622	3.278415	3.802961	4.411435
Discounted Net cash flow	**-24900000**	**49746105**	**42884574**	**36969460**	**31870224.09**	**27474331.1**	**23684768**	**20417904**	**17601641**	**15173828**	**13080887**

Summation of Discounted Net Cash Flow = NPV = 254 003 722.2

Net Present Value for SMAEs trading Beans locally within the country

Year	0	1	2	3	4	5	6	7	8	9	10
	-24900000	107493077	107493077	107493077	107493077	107493077	107493077	107493077	107493077	107493077	107493077
Discount factor	1	1.16	1.3456	1.560896	1.810639	2.10034166	2.436396	2.82622	3.278415	3.802961	4.411435
Discounted Net cash flow	**-24900000**	**92666446**	**79884867**	**68866265**	**59367469**	**51178853**	**44119701**	**38034225**	**32788125**	**28265625**	**24366918**

Summation of Discounted Net Cash Flow = NPV = 494 638 494

Net Present Value for SMAEs trading Rice locally within the country

Year	0	1	2	3	4	5	6	7	8	9	10
	-24900000	20487000	20487000	20487000	20487000	20487000	20487000	20487000	20487000	20487000	20487000
Discount factor	1	1.16	1.3456	1.560896	1.810639	2.10034166	2.436396	2.82622	3.278415	3.802961	4.411435
Discounted Net cash flow	**-24900000**	**17661207**	**15225178**	**13125154**	**11314788**	**9754127.35**	**8408730**	**7248906**	**6249057**	**5387118**	**4644067**

Summation of Discounted Net Cash Flow = NPV =74 118 332