ENHANCING THE ROLE OF INFORMAL SECTOR IN FOOD SECURITY AND POVERTY REDUCTION IN MALAWI - POLICY IMPLICATIONS AND RECOMMENDATIONS

By

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THESIS

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DECLARATION

I, hereby declare that this thesis entitled **"Enhancing the role of informal sector in food security and poverty reduction in Malawi - Policy implications and recommendations"** is a bonafide record of research work done by me during the course of research and that it has not been previously formed the basis for the award to me of any degree, diploma, fellowship or other similar title, of any other University or Society.

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Certified that this thesis entitled **"Enhancing the role of informal sector in food security and poverty reduction in Malawi - Policy implications and recommendations"** is a bonafide record of research work done independently by **Mr. Aston Oliver Mulwafu (2010-11-156)** under my guidance and supervision and that it has not previously formed the basis for the award of any degree, diploma, fellowship or associateship to him.

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Dedicated to my beloved

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ABBREVIATIONS

ADMARC	Agricultural Development and Marketing Corporation
APO	Asian Productivity Organisation
CCI	Crop Commercialisation Index
CTA	The Technical Centre for Agricultural and Rural cooperation
DEMAT	Development of Malawian Enterprise Trust
FINCA	Foundation for International Community Assistance
GDP	Gross Domestic Product
GoM	Government of Malawi
HCI	Household Commercialization Index
ILO	International Labour Organisation
KAU	Kerala Agricultural University
M-DWCP	Malawi Decent Country Work Programme
MEDI	Malawi Entrepreneurs Development Institute
MGDS	Malawi Growth and Development Strategy
MK	Malawi Kwacha
MoAFS	Ministry of Agriculture and Food Security
MPRSP	Malawi Poverty Reduction Strategy Paper
MSEs	Micro and Small Enterprises
MSMEs	Micro Small and Medium Scale Enterprises
NGO	Non Government Organisations
NSO	National Statistics Office
PRSP	Poverty Reduction Strategy Paper
SEDOM	Small Enterprise Development Organisation of Malawi
SHA	Self Help Africa
SNA	System of National Accounts
SPSS	Statistical Package for Social Scientists
SSEs	Small Scale Enterprises
SSI	Small Scale Industries
UN	United Nations
WEP	World Employment Programme

INTRODUCTION

CHAPTER I

INTRODUCTION

Malawi is a land-locked country located in the Southern Africa along the Great Rift Valley. She shares boundaries with Zambia to the Northwest, Tanzania to the North and Northeast and Mozambique to the East, South and Southwest. The country has a population of approximately 14 million people, of which 51 per cent are women.

It is relatively a small country with a physical area of 118,480 square km, of which 24,400 (20.6%) is taken by Lakes. The country is divided into three regions namely; Northern, Central, and Southern. There are 28 districts: six in the Northern region, nine in the Central region and thirteen in the Southern region. It is estimated that about 40 per cent of the population lives below the national poverty line characterised by a highly skewed distribution (GoM: NSO, 2007).

Malawi has a fragile economy, overly dependent on rain-fed agriculture and a narrow range of products. The agricultural sector is the mainstay of the economy, providing livelihood to 80 per cent of the population, generating over 90 per cent of export earnings and GDP in the range of 35 to 45 percent. Maize is the staple crop and the most important crop in terms of food security and land area cultivated. However, tobacco is by far Malawi's largest export, accounting for 60 percent of the merchandise export earnings.

Malawi and the Millennium Development Goals (2005) indicated that the country is one of the least developed with a GDP per capita of US $170.00. The UN Human Development Report (2004) ranks Malawi as the 13th poorest country in the world with over 65% of Malawi's population living below the poverty line and out of this, 28% being the 'core poor'.

The Government of Malawi policy on micro and small enterprises (MSEs) is long established and pro-development of MSEs as an integral part of economic development. Other development agencies are also playing an important role towards supporting the MSEs. Of particular relevance, within the MSE Policy, there is a key statement of policy

that Government *"shall establish a loan guarantee scheme in favour of MSEs"*. MSE support agencies such as Development of Malawian Enterprise Trust (DEMAT), Small Enterprise Development Organisation of Malawi (SEDOM) and Malawi Entrepreneurs Development Institute (MEDI) provide a mixture of credit, vocational and business training to micro and small enterprises, but are of limited reach and not effective in relation to the numerous business community in practical terms.

The growth of economy of any nation fundamentally depends primarily on the important role played by the entrepreneurs. Entrepreneurs are instrumental in exploitation of abundant natural resources, particularly in the field of agriculture. Thus, in all economic development activities, more focus is being centered on enterprise development. All round development of agriculture is possible with effective exploitations of human as well as material resources to achieve balanced economic growth with proper emphasis on both agriculture and industry.

Godfrey (2011) observed that a substantial portion of the world's economic activity takes place informally, with many developing nations having more than one half of their output derived from the informal sector and the advanced economies are witnessing an increase in informal economic activity.

There is great need, therefore, to take up actions that can reduce poverty in the country. One way of doing this is to promote income generation and employment creation among the poor. The informal sector is a sizeable force in the rural markets of Malawi. The rural poor, largely women are the players in this informal sector, as cultivators, growers, vendors and buyers. The sector is informal in the sense that the units involved are mostly unregistered, are not recorded in official statistics, and have little or no access to formal markets for goods and credit, to formal education and training, or to public services. Being often not recognized or supported by government, they may operate outside the legal framework. The existence of the informal markets makes it possible for agents to engage in entrepreneurship or to obtain scarce goods and services that otherwise would not exist.

There lies immense potential in bringing better wellbeing in rural Malawi, through scaling up the functioning of the informal sector. Increased access to credit, savings opportunities and other financial services will be crucial in this respect. The

Government's Policy Framework for the Poverty Alleviation Programme developed in 1995 recognised this role and has, as one of its strategies, *'the improvement of access to credit facilities by deepening and broadening the financial sector to assist the poor to diversify their sources of income'.*

Therefore, the study seeks to comprehensively look at the nature and extent of scaling up informal sector in Ntcheu District which is located in the Central region having total population of 474,464 and Balaka District which is located in the Southern region with total population of 316,748. This would be very essential as it would further harmonise informal sector activities for enhanced livelihood engagements among the households.

Objectives of the study

This study aims to address four key specific objectives regarding the informal sector in Malawi;

1. To analyse the internal factors and external factors influencing the sector.
2. To examine the supply chain dynamics in the major groups of agricultural commodities dealt by the informal sector.
3. To study the spatial distribution of the informal sector and their contribution to the local markets.
4. To determine policy suggestions for scaling up the role of informal sector in promoting food security and poverty reduction in rural Malawi.

Scope of the study

Most of the studies on informal sector have significantly addressed the scope and understanding of the sector in terms of contribution towards rural livelihoods support. Notable observations reveal its importance in terms of providing household food, income and self-employment. However, there has been limited documentation on dimensional up-scaling of the sector and policy inclusion. There is inadequate information about the internal and external factors influencing the potential role of the sector. In addition, the supply chain for major agricultural commodities involved will be examined.

Limitations of the study

The study was conducted as a part of master's research work and was conducted in Ntcheu and Balaka districts. The two districts displayed most typical activities of informal sector by the way of rural people engaging in farming activities as well as doing small scale businesses. From each of the districts, two local markets were chosen according to volumes of agricultural commodities dealt with. The study had the inherent limitations of resources such as time, finance and researcher's experience. As such the student researcher confined the coverage of the study to a feasible level in terms of sample size, location etc. Regardless of the limitations, efforts were made to conduct the study in an as objective and systematic manner as possible.

Informal sector is an enormous topic which would require sufficient resources for detailed study. The present study targeted a comparatively small scale sample. Still, an attempt has been made to come out with tangible and comprehensive suggestions.

Presentation of the thesis

The thesis is presented in six chapters. The first chapter is an introductory section, highlighting the objectives, scope and importance and limitations of the study.

The second chapter provides the review of literature regarding in line to the objectives of study. The third chapter is the methodology that was followed in carrying out the research. The fourth chapter deal with the results and discussion of the study. The fifth chapter includes summary, implications and conclusion of the study. References, appendices and abstract are furnished at the end.

REVIEW OF LITERATURE

CHAPTER II

REVIEW OF LITERATURE

This chapter tries to establish the concepts and ideas that will be explored in relation to previous studies already carried out. It will provide status of other theoretical and empirical studies that were done on similar field. Informal sector is a common phenomenon which has a wide scope in various developing and developed countries. Hence, similar work conducted world-over will be considered in order to internalise the current study. This will further try to explore more on what Malawi has achieved in terms of informal sector growth and development.

For an intense and coherent study, this section has been divided into sections in order to come up with immense views pertaining to previous studies;

2.1 Small and marginal farmer marketing in agriculture.

2.2 Concept and characteristics of informal sector

2.3 Supply chain features of the Informal sector

2.4 Problems and constraints faced by farmers

2.5 Avenues for scaling up of the activities of the informal sector.

2.6 Cases of successful small farmer marketing approaches from around the world.

2.1 Small and marginal farmer marketing in agriculture.

Farmers engaged in small-scale agriculture have limited access to factors of production, credit and information. Markets are often constrained by inadequate marketing support systems and high transaction costs. Despite these problems farmers have managed to produce food for both own consumption and marketing. Farmers sell their produce through informal channels which is most predominant and in rare cases formal channels.

Agro-based industries provide an excellent setting in promoting integrated development of agriculture, industry and transferring of stagnant rural wealth into dynamic and buoyant economy. It provides local entrepreneurship, generates employment and also checks the concentration of economic power through diffusion of ownership of means of products (Ganguly, 1990).

Mahadea (2001) indicated that when it comes to assistance measures, persons in funding and other agencies responsible for planning and promoting small enterprise development should perhaps display a gender-neutral attitude towards business individuals in informal production.

Fruits and vegetables are generally produced by farmers for their families and for nearby markets. Farmers at the SME level, however, generate income by growing fruits and vegetables for local and distant markets. Appropriate pre-harvest practices, proper post-harvest handling, packaging and transportation are, therefore, critical to maximizing returns to these small commercial farmers. Marketing must also be well planned (APO, 2006).

GoM and World Bank (2006) reported that empirical research often highlights that "small is beautiful", which is based on empirical observation that small farms present higher land productivity than large farms, because of the intensive use of the land by labour-abundant households. There exist an 'inverse relationship' between farm size and productivity in Malawi. This finding implies that smaller farms are using their variable resources more efficiently than the bigger farms, yielding higher output per hectare.

In Malawi and other low-income countries, small and medium-sized farms are typically more efficient producers than large farms and have better consumption and investment patterns for stimulating growth in the non-farm economy. Smallholder farming can help contain poverty by providing an affordable home platform from which poor households can improve their livelihoods. It also helps to ensure a degree of food security in rural areas where high transport and marketing costs can drive up food prices, while at the national level their higher land productivity has the potential to help Malawi attain greater self-sufficiency in staples (GoM and World Bank, 2006).

The inability of the Malawian economy (both public and private sectors) to generate an adequate number of jobs has left many job-seekers, particularly young people, school leavers and women, without the opportunities for obtaining decent employment. For many of these labour market entrants, the only viable option is entrepreneurship or self-employment in the informal economy (Munthali *et al.*, 2011).

Munyeche *et al.*, (2011) reported that international experience has shown that growers who grow and market horticultural products earn more income than cereal or pulse growers. However, for this potential to be realised, these growers need ready and efficient access to markets. In the case of small-scale growers, this is particularly difficult due to barriers such as size and scale of operation as well as insufficient knowledge of grades and standards related to technical skills.

2.2 Concept and characteristics of informal sector

The intention of this paper is not necessarily to define the informal sector. In this scenario, informal sector refers to agro-business based production. Many studies and the current scenario of the sector have been articulated and described its meaning. However, few insights will be considered in addition to drawing its conceptualisation and the characteristics of the informal sector. Malawi being one the developing countries is experiencing its informal economy through the informal sector which is very predominant for most of the small and marginal farmers.

According to several authors (ILO, 1972; Weeks, 1975; Bromley, 1978; Harper, 1984; Castells, *et al.* 1989; Pratap and Quintin, 2006) informal sector has been defined by taking into consideration many aspects such as size, number of employees, organisation, etc. In broad terms, drawing from various definitions, the informal sector activities are characterized by small-scale, self-employed activities, with or without hired workers, typically at a low level of organization and technology, with the primary objective of generating employment and incomes. They constitute largely unrecognized, unrecorded and unregulated activities. They therefore escape the attention of the administrative machinery responsible for enforcing laws and regulations.

In general, MSEs are an integral element of the informal sector in most developing countries. In the majority of cases, these enterprises are initially informal but gradually some of them survive and become formal businesses, thereby providing the foundation of modern private companies (Mkandawire, 1999).

In the poorest countries, on average almost two thirds of workers are employed in enterprises with less than 5 employees while the majority work for enterprises with less than 100 employees (Cull *et al.*, 2004).

The recommendations of the Delhi Group in Rev.1 of System of National Accounts (SNA), on the definition of the informal sector (Carson and Havinga, 2006)

(a) Informal sector enterprises are private unincorporated enterprises (excluding corporations and quasi-corporations), i.e. enterprises owned by individuals or households that are not constituted as separate legal entities independently of their owners, for which no complete accounts are available. Included in private unincorporated enterprises are unincorporated partnerships and co-operatives formed by members of different households, if they lack complete sets of accounts;
(b) All or at least some of the goods or services produced are meant for sale or barter;
(c) Their size in terms of employment is below a certain threshold to be determined according to national circumstances;
(d) They are not registered under specific forms of national legislation as distinct from local regulations for issuing trade licenses or business services;
(e) They are engaged in non-agricultural activities, including secondary non-agricultural activities of enterprises in the agricultural sector.

In the MSE policy of 1998, Government of Malawi (GoM) defined MSMEs by a combination of employment and turnover, with capital investment not reflected. The informal sector falls in the micro-enterprise category. The 2000 Gemini study used a definition of MSEs to "include those businesses that employ 50 or fewer employees including working owners." This does not cover the whole of the Medium Sector according to the GoM definition, but was based on the GEMINI methodology to allow for international comparisons (Kedrock and Agar, 2007).

Table 1: Enterprise categorisation

SI.	Type	Employment	Annual Turnover (Malawi Kwacha)[1]
1	Micro	1-4	Up to 120,000
2	Small	5-20	120,000 to 4 million
3	Medium	21-100	Above 4 million to 10 million
4	Large	Above 100	Above 10 million

Source: Ministry of Industry, Trade and Private Sector Development, 2006

2.2.1 Operational definition

In this study, the informal sector refers to agro-business enterprises that are owned by individuals or households that are not constituted as separate legal entities independently of their owners. It covers key features like;

- They lack complete sets of accounts;
- All or at least some of the goods or services produced are meant for sale or barter
- Their size in terms of employment is below a certain threshold to be determined according to national circumstances;
- They are not registered under specific forms of national legislation.
- They are engaged in agricultural and non-agricultural activities of enterprises.

2.2.2 Concept of informal sector

The conceptual framework in diagram below explains the various interrelated issues in broad terms. It indicates that there are more main sources of capital for small-scale informal businesses such as inheritance acquisition, informal lending institutions, sale of agro-based products and individual's own savings. Such capital is useful for business start-up costs or for sustaining an existing business.

Wynarczyk *et al.,* (1993) identified the characteristics of the small firm other than size. They argued that there are three ways of differentiating between small and large firms. The small firm has to deal with;

1. Uncertainty associated with being a price taker

[1]170 Malawian Kwacha (MK) is equivalent to 1USD and 49 Indian rupees (₹) is equivalent to 1 USD.

2. Limited customer and product base
3. Uncertainty associated with greater diversity of objectives as compared with large firms.

Kayanula and Quartey (2000) pointed out that rural enterprises are largely made up of family groups, individual artisans and women engaged in food production from local crops. It is interesting to note that small scale enterprises make better use of scarce resources than large scale enterprises.

Chipeta (2002) indicated that the informal sector consists of employed workers and self-employed persons producing and distributing goods and services on a small scale. The sector is informal in the sense that the units involved are mostly unregistered, are not recorded in official statistics, and have little or no access to formal markets for goods and credit, to formal education and training, or to public services. Being often not recognized or supported by government, they may operate outside the legal framework.

Hussmanns (2004) reported about the findings of the January 1993, ILO: Fifteenth International Conference of Labour Statisticians- Resolutions concerning statistics of employment in the informal sector as follows;

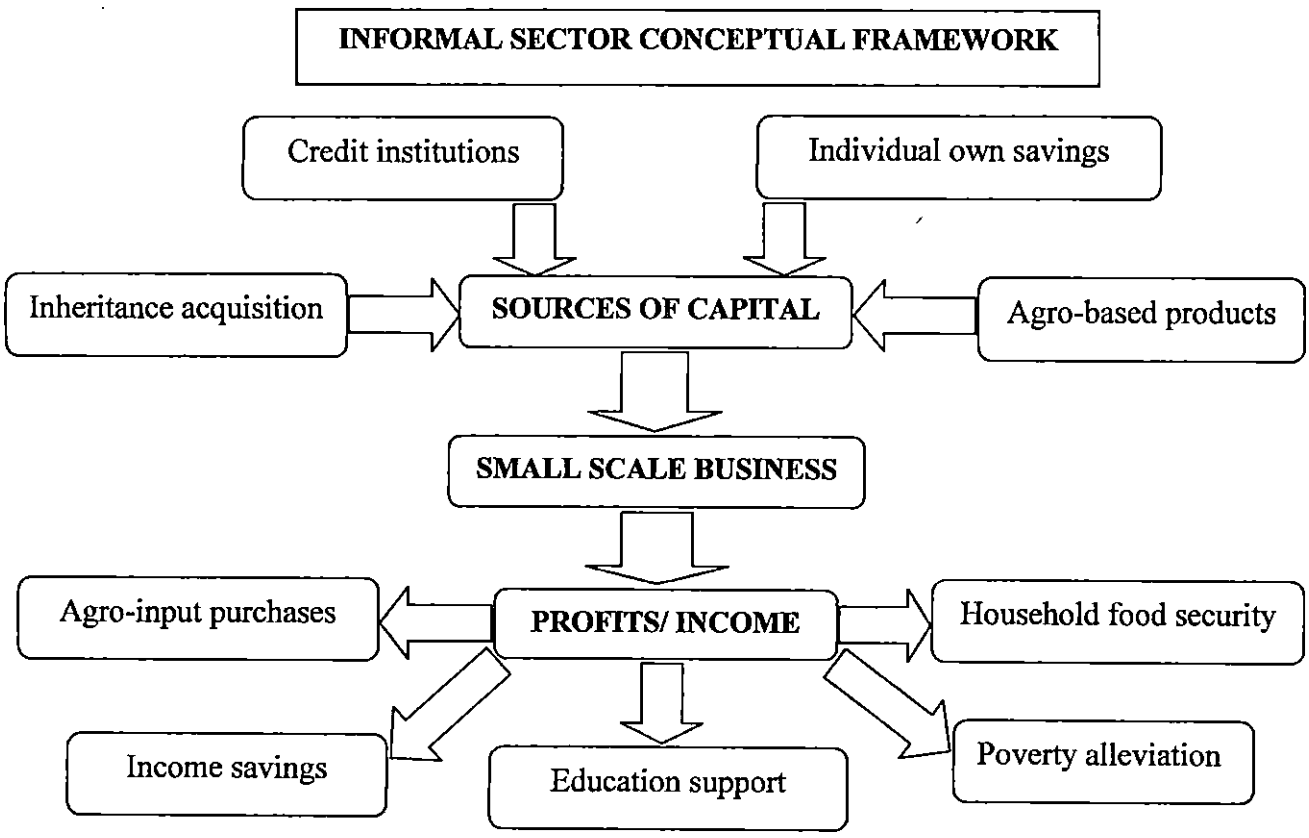
- The informal sector may be broadly characterized as consisting of units engaged in the production of goods or services with the primary objective of generating employment and incomes to the persons concerned. These units typically operate at a low level of organization, with little or no division between labour and capital as factors of production
- Production units of the informal sector have the characteristic features of household enterprises. The fixed and other assets used do not belong to the production units as such but to their owners. Expenditure for production is often indistinguishable from household expenditure. Similarly, capital goods such as buildings or vehicles may be used indistinguishably for business and household purposes.
- Activities performed by production units of the informal sector are not necessarily performed with the deliberate intention of evading the payment of taxes or social security contributions, or infringing labour or other legislations or

administrative provisions. Accordingly, the concept of informal sector activities should be distinguished from the concept of activities of the hidden or underground economy

Kristina (2004) reported the *informal sector* is increasingly being referred to as the *informal economy* to get away from the idea that informality is confined to a specific sector of economic activity but rather cuts across many sectors. The informal economy can however no longer be considered as a temporary phenomenon. It has been observed to have more of a fixed character in countries where incomes and assets are not equitably distributed.

When, properly managed, small-scale businesses have the potential to generate surplus revenue or profit, which can have a number of benefits on the entrepreneur and the society. These benefits include ability to purchase agricultural inputs, which are important to boost agricultural production; ability to make some savings, which are useful in meeting emergency and other financial needs; ability to pay for the costs of education and other related costs; ability to meet the costs of household food needs hence achieving food security and generally, the ability to alleviate household poverty by moving out of poverty trap through increased income earnings (Mulwafu, 2007).

Figure 1: Informal sector conceptual framework



2.2.3 Roles of the informal sector

Richardson (1984) mentioned that the informal sector works like the training ground for skills and entrepreneurship development. In the long run, the informal sector gives poor people an opportunity to understand and later prove that they are worthy of something and that they can effectively take action to sustain themselves and their families (Bugnicourt, 1995).

Parker *et al.,* (1995) reported that the informal sector employs about 15.5% and 14.09% of the labour force in Ghana and Malawi respectively. The sector has experienced higher employment growth than micro and large scale enterprises (5% in Ghana and 11% in Malawi).

ILO (1998) reported that women as micro and small entrepreneurs have increasingly become a key target group for micro-finance programmes. Providing access to micro-finance is considered as a precondition for poverty alleviation, but also for women's empowerment. As poor women are increasingly recognized to be better borrowers, they are starting to become of interest also to regular financial institutions. But despite the proven positive impact of providing microfinance services to female entrepreneurs in the informal sector, microfinance is just one tool among others to address the multiple causes of poverty, unemployment and social exclusion.

According to Barro (2000), the existence of the informal markets makes it possible for agents to engage in entrepreneurship or to obtain scarce goods and services that otherwise would not exist.

Cross (2000) argues that scholars tend to focus mainly on what the informal sector lacks as compared to the formal sector. They overlook the features that actually make the informal sector successful-the spirit of survival and flexibility.

ILO (2000) emphasized the growing role of the informal sector as a source of employment and income for significant numbers of workers. Emphasis is hence placed on protecting and enhancing the income- and employment-generating potential of the informal sector, and making it capable of offering better working conditions and

protection for workers. These priority issues have in fact been at the centre of the strategic policy options on poverty alleviation developed as a result of the research and operational activities of the ILO's World Employment Programme (WEP).

Toomel (2001) reported that the informal sector plays a significant role in the economies of developing countries and holds great potential for poverty reduction. Growing poverty in developing countries is linked to the lack of productive employment opportunities and the underdeveloped formal sector. East Asian countries provide a good example to other regions, demonstrating considerable success in promoting informal sector enterprises and its contribution to national economic growth. The success has resulted from the introduction of appropriate macro-economic policies, institutional support systems and small industry promotion strategies, as well as an integrated approach to the role of the informal sector in the economy as a whole.

The ILO (2002) presents reliable data on the economic scale of the informal economy in many countries: 48% of workers are employed in the informal economy in North Africa, 72% in Sub-Saharan Africa, 51% in Latin America, and 65% in Asia.

Madziakapita (2003) argues that the informal sector helps to absorb labour of new arrivals in the urban areas. Without the existence of the informal sector, it is likely that a 'social economic crisis' can emerge hence destabilizing the whole society in general. As opposed to the formal sector, the informal sector capably creates a large number of jobs at a very low capital cost because it does not incur extra costs such as employment benefits.

Kristina (2004) indicated that the informal economy thus provides opportunities for income earning for those that have no other means to survive. However, it is also believed that people voluntarily engage in informal economic activities because of excessive taxation and regulation from the part of governments.

Small and medium-sized enterprises (SMEs) are a key component in economic life, not only because of their number and variety but because of their involvement in every aspect of the economy, their contribution to regional development, the complementary role they play in support of the large sector and on the ground of innovativeness and adaptability.

They are seen as a kind of industrial breeding ground, a source of constant renewal of industry and commerce, and wellspring of competition and dynamism. Small enterprises could be termed as seed of industrial growth (Prasad, 2004).

Based on the empirical evidence, although the informal sector strategy is a product of political expediency and, therefore, prone to pitfalls, it nevertheless constitutes a worthwhile attempt to combat unemployment in the long term (Debrah, 2007).

Soundarapandian (2009) described that small scale enterprises (SSEs) play an important role in recovery and increasingly recognised as having a permanent role as a seedbed for future growth. Their activities span on wide range in both formal and informal sectors and these provide a good source of non-public employment. Even for some public sector employment, small scale enterprises provide a substantial supplement to their income as second job.

Misati (2010) reported that the perception that the presence of a huge informal sector in an economy constrains investment is baseless and its standard application is questionable. The formal private market mechanism alone cannot be relied upon to solve the poverty and unemployment problems in Sub-Saharan Africa. The study proposed recommendation to enhance the role of the informal sector through developing policy documents in these economies such as Poverty Reduction Strategy Papers (PRSP) which should be reviewed and refocused to incorporate and put more emphasis on informal sector development efforts.

According to Aga and Reilly (2011) they indicated that countries like Ethiopia that are highly dependent on the agricultural sector, MSEs may constitute an important channel for economic diversification. Not surprising that the country's Poverty Reduction Strategy Paper (PRSP) underscores the role of MSEs *'...as seedbeds for the development of medium and large enterprises (vertical integration)'*, and to *'... absorb agriculturally under-employed labour, and diversify the sources of income for farming families.'*

Godfrey (2011) observes that a substantial portion of the world's economic activity takes place informally, with many developing nations having more than one half of their output derived from the informal sector and the advanced economies witnessing an increase in informal economic activity.

2.3 Supply chain features of the Informal sector

Supply chain features tries to demonstrate and define the activities required in bringing a product from its conception to the final consumer. Through supply chains, producers and other players in developing countries and emerging economies can access market information and knowledge to perfect their value-added activities.

Saxenian (2000) argues that a hallmark of successful Silicon Valley start-ups is their ability to use informal contracting and social network ties throughout the value chain in

Berdegué *et al*, (2008) reported that small-scale, often informal traders and middlemen are of particular importance to the poorest farmers and to those located further away from the markets and the main roads. This is particularly true for small-scale traders and middlemen, who often are vital in linking smallholders to dynamic markets. Their legitimate and useful roles in the value-chain need to be acknowledged and they need to be supported in order to streamline the value-chain.

Khan and Kazmi (2008) defined the value chain as 'activities required bringing a product from its conception to the final consumer'. They pointed out that the dimensions of the chain include an input-output structure, flow of knowledge, geographic spread, and a control or governance mechanism.

Value chain is very important in promotion of agricultural development. The utilization of the value chain dictates that there must be joint effort among development partners including well articulated policy measures. The success of agribusiness depends on being competitive and efficient in agricultural operations especially in value addition, ensuring high quality products and introduction of new agricultural brands/ products through extensive research and development for small scale farmers (Mucavele, 2010).

2.4 Problems and constraints faced by farmers

There is limited access to most basic raw material inputs for production activities. In fact, the logistical problems faced by local entrepreneurs in sourcing input supplies acts as a key constraint on enterprise development and diversification. The lack of packaging supplies is also a key factor limiting the formalization of production activities.

Lack of credit facilities is the most commonly cited problem among existing MSEs. A current concern is that the credit methodology of the Foundation for International Community Assistance (FINCA), which insists on weekly repayments, limits business growth by not providing sufficient time to make profit.

Cultural attitudes to business – Success is often equated with witchcraft; traditional gender divisions of labour are challenged when women become involved in cash transactions (women who travel are considered to be prostitutes); and funeral rituals may

require the affected household not to run a business for 40 days. In addition, some religious organisations forbid the production and sale of beer (a highly profitable but socially damaging micro enterprise), while others forbid anything to do with pork. In Lomwe culture, selling maize is frowned upon even where there is a surplus, thus limiting access to cash for diversification into business (Alastair and Sheena, 2002).

There is limited outreach from the limited geographic coverage of these credit schemes. Most operate in a few districts and very few are national programmes. Only 4 out of the 16 credit schemes operate national programmes while many operate in less than ten districts. Even the programmes that operate at national scale are hardly accessible to micro and small enterprises. Accessibility to financial services for the poor therefore remains the unresolved constraint of micro and small scale enterprises (Chirwa, 2002).

Action-Aid International, (2004) in its Malawi Country Strategy Paper 2005-2010 reported that the informal sector which is a major source of livelihood for poor people remains undeveloped and uncoordinated despite the presence of small enterprise development organizations. Thus, the contribution of this sector to the country's economy is not quantified. The inequalities in access to productive resources and the formal job market between men and women contribute to inequality in income.

Malawi Growth and Development Strategy (2006) articulated five main areas constraining the growth of small scale business: Macro-economic conditions and instability; weaknesses in the legal and regulatory framework; weaknesses in infrastructure (particularly transport related and utilities); poor dialogue and co-operation between government; and private sectors and weak human resource base.

There is an inherent perception of risk by commercial banks in the targeted agriculturally-linked SME borrower group due to their size, typical ownership and business acumen. This perception is exacerbated by commercial banks' lack of knowledge of SMEs, their limited understanding of the relative risks within agricultural sectors, their conservative lending policies, and the lack of financial product innovation (Kedrock and Agar, 2007).

Kayuni and Tambulasi (2009) outlined some points on how problems are created on the informal sector as follows;

- The informal sector does not have property rights to influence on policy making
- Due to its illegality, the sector is denied the opportunity to access basic services like water, electricity and phones
- Limited and inadequate access to certain services and information due to its illegality
- Workers in the informal sector earn low incomes because of ill-designed institutions and this leads to inequality when compared with workers in the formal sector.

2.5 Avenues for scaling up of the activities of the informal sector.

With a per capita gross domestic product (GDP) of US $301 in 2008 (up from US$ 261 in 2007), the country still experiences a high level of underemployment due to the insufficient number of jobs created in the formal economy. As a result, there has been a rapid growth in the size of the informal economy. The informal economy contributes about 80 per cent of the labour force is engaged in small-scale agriculture, provision of casual labour and vending (GEMINI Report, 2000). For instance, the GEMINI report (2000) estimates that micro and small enterprises (MSEs) contribute income to about 25 per cent of the Malawian households.

Desai (1999) reported that an integrated infrastructural programme geared to the needs of small-holder farms and small-scale enterprises is the best means of promoting both types of productive activity. For instance, if there are a number of small dairy farmers, a central refrigeration plant can serve all farmers in the area by an active network of communication. As a result, each farmer can get the benefit of an assured market and an ensured income.

Saxenian (2000) argued that a hallmark of successful Silicon Valley start-ups is their ability to use informal contracting and social network ties throughout the value chain in order to resolve uncertainty surrounding new products and emerging markets. At the earliest stages of business formation- entrepreneurship, uncertainty surrounding the

ability, integrity, and overall value of business partners, suppliers, customers, and investors invites entrepreneurs to build networks based on family or friendship ties. If one does not have the time to scrutinize potential partners, then dealing with friends or known associates becomes a rational strategy.

Due to its potential in poverty reduction, the MSEs sector is receiving increased focus in development policies as stipulated in the Malawi Poverty Reduction Strategy Paper (MPRSP), in which it is singled out as one of the sectors that has the potential for achieving pro-poor growth in which women are to play a significant role (GOM, 2002).

Chirwa (2004) indicated that the development of micro and small enterprises is seen as one instrument in addressing poverty problems in developing countries, and women are increasingly participating in the ownership of MSEs. In Malawi, 34 per cent of MSEs are owned by women compared to 35 per cent owned by men and 31 per cent owned by mixed gender.

The lack of access to formal employment by South Africans is at the root of the development of the informal sector, which accounts for 12 per cent of the labour force. In other words, along with the structural crisis and decline in economic growth of the 1970s, the economic model based on racial segregation exacerbated the country's internal economic crisis and the expansion of the informal sector.

Enterprises in the informal economy have an entrepreneurial potential that could flourish if some major obstacles to growth were to be removed. Furthermore, even if only a fraction of informal enterprises would have the possibility to upgrade, it would probably contribute substantially to increased economic growth (Kristina, 2004).

Prasad (2004) illustrated that the strategy for small enterprise development should depict three elements;

1. Policy of protective discrimination
2. Integration between large and small industries
3. Institutional support, assistance and incentives

He further argued that small enterprises should not be viewed in limited terms as small scale industries (SSI) defined in terms of investment in plant and machinery (currently not exceeding rupees ten million) but should cover the entire village and small industries sector including handicrafts, sericulture, handloom etc in other words a large segment of unorganised manufacturing sector.

Ligthelm (2008) suggested that policy initiatives to promote small business development and survival should be a dual approach consisting of the following two broad categories:

- Targeting small businesses with growth potential on an individual basis with traditional small business programmes offering financial, training and counselling support.
- Designing collective support programmes for survivalist businesses with limited growth potential. These programmes may include improving the business environment like providing shelters and access to basic infrastructure.

Sookram, *et al.,* (2009) found that households are motivated to participate in the informal sector when members spend little time in formal sector activity, believe that taxes are too high and their incomes are too low, have dependents to support and believe that the resulting tax evasion will go undetected.

Munthali *et al.,* (2011) explains there is limited application of social dialogue in the small and medium enterprises (SMEs) in rural areas. Increasing the outreach and engagement of social partners in rural areas as well as innovative approaches for organization and representation of rural interests will be of crucial importance in this sense. Hence, the Malawi DWCP country priority programmes in addressing the problem by giving due attention to the informal economy, rural areas and the agricultural sector. This will be achieved by;

1. Creating more and better employment and income generation opportunities, particularly for the vulnerable groups including the youth, women and people with disabilities, as well as ensuring the elimination of the worst forms of child labour;
2. Enhancing and extending the coverage of Social Protection;

3. Building the capacities of the Government and Social Partners to improve service delivery.

2.6 Cases of successful small farmer marketing approaches from around the world.

2.6.1 Uganda: Connecting small scale farmers to markets, case of the Nyabyumba United Farmers Group in Kabale district

Aliguma *et al.,* (2007) reported that the majority of the population buys cheap, low quality dairy products on the informal markets. However, the growth of the urban population and average purchasing power has boosted the demand for high quality milk and dairy products. Liberalization of the dairy market has allowed the industry sector to respond to this opportunity. Since the 1960s the installed dairy processing capacity had remained at 130,000 litres per day. However since liberalization private investments have added an additional 200,000 litres per day, hence trebling the market for the small-scale dairy farmers.

2.6.2 Dimitar Madzarov in Bulgaria

The private Bulgarian dairy processing firm, Dimitar Madzarov Ltd., has increased by a factor of 20 its daily processing of milk, sourced from over 1,000 small farms, half of which have fewer than five cows. The firm has successfully met all the requirements to continue selling its dairy products in a demanding and highly competitive market. Part of the success of Madzarov in building a reliable milk procurement system has to do with the high frequency of payment to its small-scale farmer suppliers. In the case of the smallest farmers, the firm goes as far as advancing payment. Access to this source of timely and reliable financing is considered by the farmers to be of greater importance than the price received for their milk (Bachev and Manolov, 2007).

2.6.3 Case of the Tuesday farmers' market in Zambia-Africa

For small-scale farmers, finding time to both grow crops and to sell produce can be difficult. In Zambia, a group of farmers have come up with a solution. They decided to organise their own market which only operates on one day of the week, Tuesday. They realised that just having to market on one day would be better for them, as they could farm on the other days.

Over 200 Tuesday markets have been established which have membership to co-operative. Through this, the farmers have developed a market which works in their interests, and those of their target customers. The marketing system is flexible rather than being forced to sell through a system which exploits them (The CTA, 2008).

2.6.4 Tanzania: Impact of market links on horticultural production in the Mara region

Mafuru *et al.,* (2008) indicated that vegetable growers in the Mara region produced a limited number of farm products, as demanded by traditional local markets. Quality and hygiene were not important parameters in a market dominated by price considerations. However, the rapid increase in tourism since the 1990s created a whole new market. The numbers of tourists grew six-fold between 1997 and 2005 to a total of 624,000 tourists each year. Hoteliers and lodge managers were sourcing their fresh fruits and vegetables from as far away as Kenya and even South Africa, paying high costs due mainly to transportation through an inadequate road network or by airfreight. They did not look at the local farmers as a source of supply because of the notorious quality and hygiene gap.

MATERIALS AND METHODS

CHAPTER III

MATERIALS AND METHODS

A well designed and clearly laid down research methodology is useful because it determines the validity and quality of the study. The methodology provides a description and rationalization of various methods involved in carrying the research. Detailed description of methods and procedures that are essential for addressing the objectives set forth in this study have been provided in this section as follows;

3.1 Research design of the study

3.2 Locale of study

3.3 Selection of respondents' both farmers and stakeholders involved in the informal sector activities

3.4 Selection and operationalisation of the variables

3.5 Methods of data collection

3.6 Statistical tools used

3.1 Research design of the study

The study is *ex-post-facto* in its nature as there is no scope to manipulate the research design for the independent variables. '*Ex-post-facto*' research design is a systematic inquiry in which the researcher does not have direct control over the independent variables because their manifestations have already occurred or because they are inherently not manipulatable (Kerlinger, 1983).

3.2 Locale of the study

Selection of Districts

Balaka and Ntcheu districts in Malawi were purposively selected for the study because the districts display most typical activities of informal sector by the way of rural people engaging in farming activities as well as doing small scale businesses. From each of the districts, two local markets were chosen according to volumes of agricultural commodities dealt with. Hence, total of four local markets were studied. The respondents were randomly selected emanating from these local markets as shown in the maps.

MAPS SHOWING LOCALE OF THE STUDY

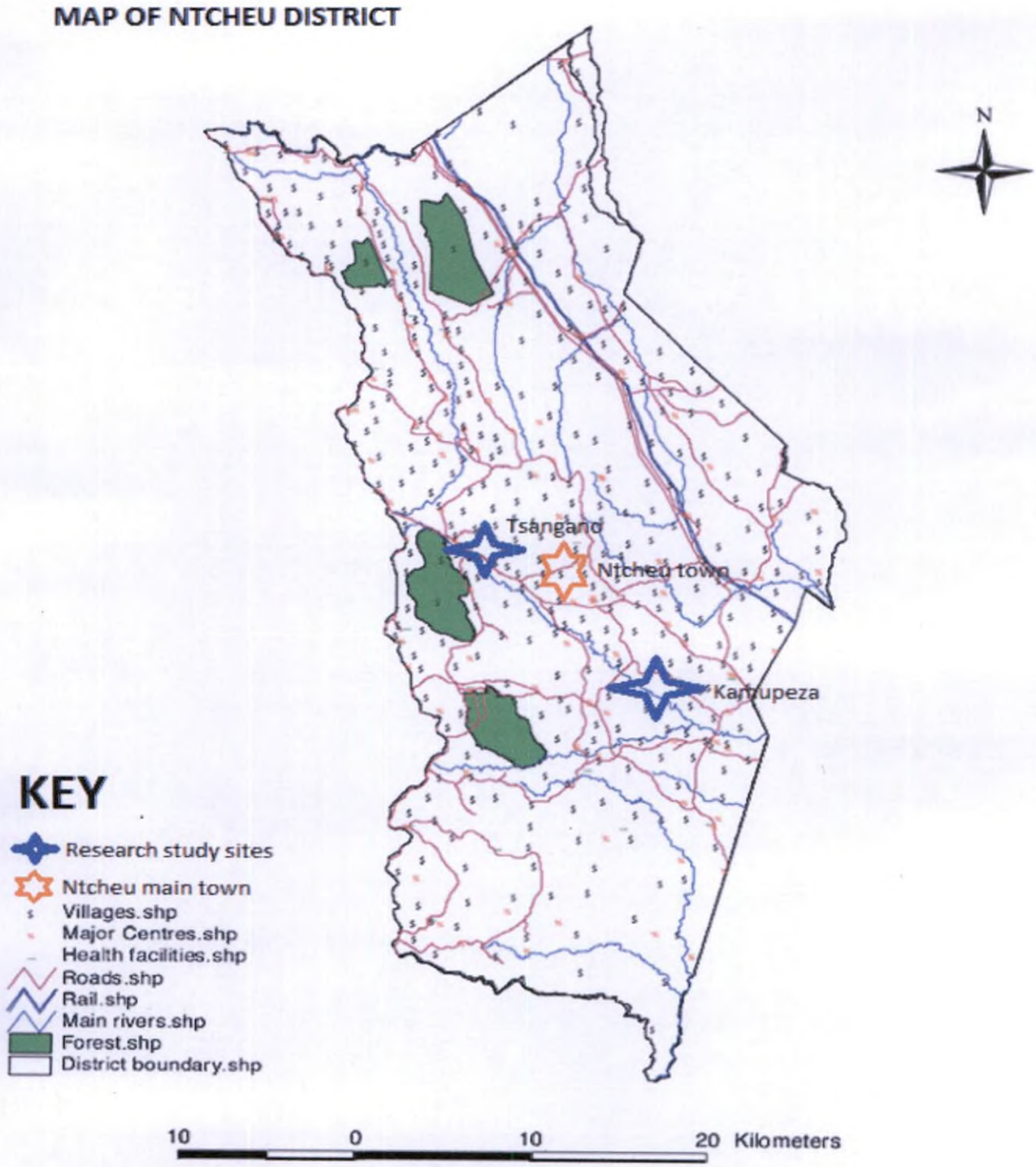


Fig. 2: Map of Ntcheu District

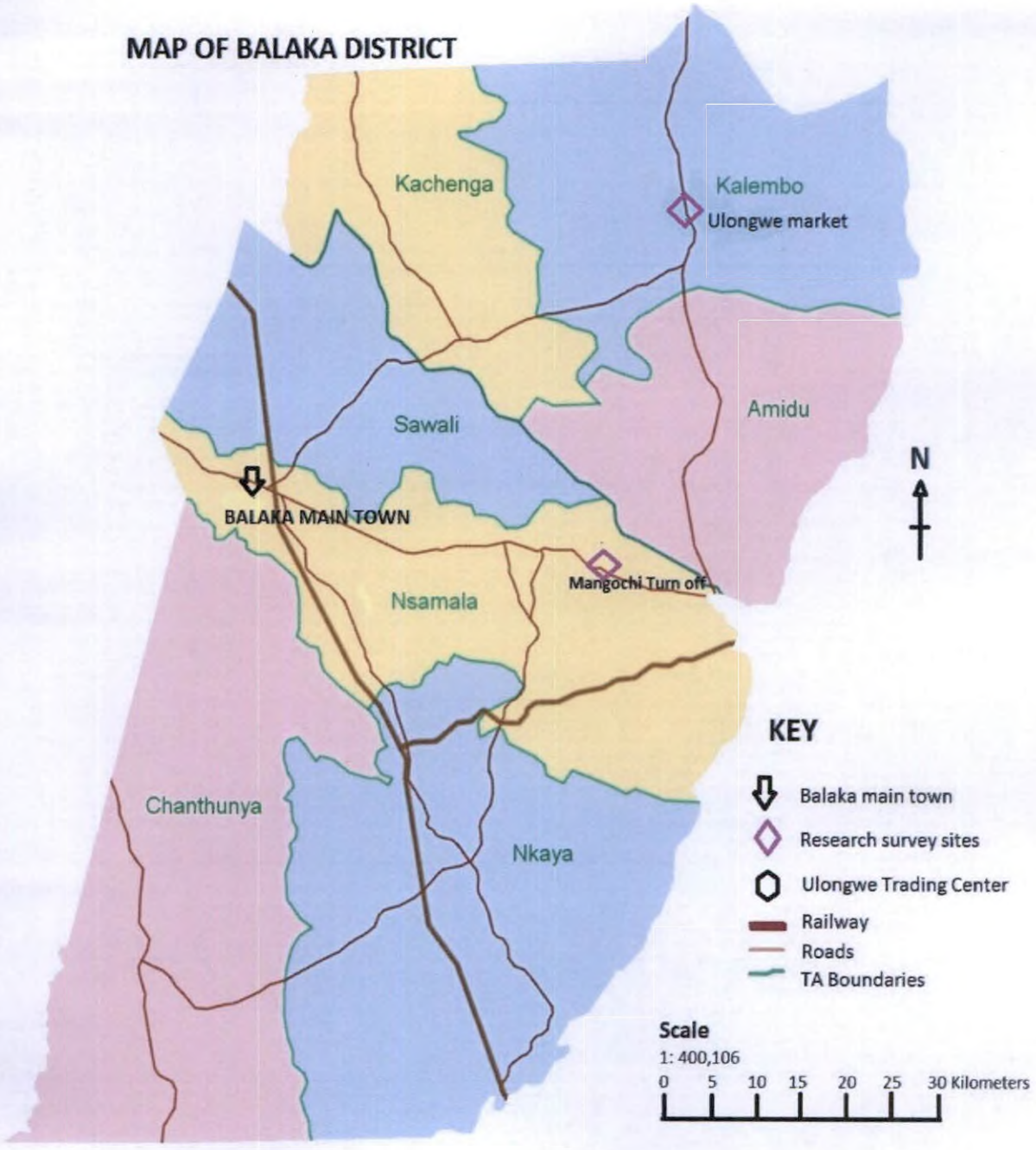


Fig. 3: Map of Balaka District

3.3 Selection of respondents involved in the informal sector activities

Selection of respondents

In the study, farmers engaged in informal sector activities were targeted as respondents. The farmers denote those people that are earning their livelihoods by relying on informal sector activities. The stakeholders refer to any group or individual or institutions that can affect or is affected by the performance achievement of informal sector.

From the four local markets, thirty farmers involved in the informal sector were randomly selected as respondents hence making a total sample size of 120 farmers. Specifically those farmers that produce crops for consumption and surplus for sale were selected. A list of respondents was prepared in consultation with the respective stakeholders like agricultural officers, NGO concerned and other marketing institutions for data collection.

3.4 Selection and operationalisation of variables

Selection of variables

The households personal characteristics of the respondents engaged in the informal sector will be studied.

Twenty-seven independent variables related to the household characteristics and aimed at answering the research objectives were selected following review of literature and consultation with experts in the field. Later thirty judges which included extension scientists and other experts in the field were presented with variable list for final relevancy rating. They were asked to examine the variables critically and to rate the relevance of each variable on a six-point continuum ranging from highly relevant (HR), relevant (R), somewhat relevant (SR), neutral (N), less relevant (LR) and least relevant (LeR) with weightages of one, two, three, four, five and six respectively. Out of 30 judges, 25 judges responded representing almost over 80 per cent feedback.

The final variables were selected based on the criterion of mean relevancy score, which was obtained by summing up the weightages obtained by variable and dividing it by the number of judges who responded. Those variables governing a score more than the mean was selected for the study.

Table 2: Summary list of variables and their measurement procedures

Sl. No.	Variables	Measurement procedure
Independent variables		
3.4.1	Age	Mwale (2006)
3.4.2	Education	Jayasree (1995)
3.4.3	Occupation	Anup (2003)
3.4.4	Access to credit facilities	Developed for the study
3.4.5	Farmer business orientation	Jayalekshmi (2001)
3.4.6	Commodity transportation	Developed for the study
3.4.7	Achievement motivation	Developed for the study
3.4.8	Monthly income	Manohari (1988)
3.4.9	Business information	Grant (2002)
3.4.10	Use of information sources	Developed for the study
3.4.11	Innovativeness	Jayalekshmi (1996)
3.4.12	Enterprise/ business sales profit	Developed for the study
3.4.13	Season wise production (during the past 3 years)	Babu (1995)
3.4.14	Exposure to extension sources	Jayalekshmi (1996)
Dependent variable		
3.4.14	Household commercialisation index (HCI)	Developed for the study

Measurement of independent variables

The operational definition and scoring for the independent variables has been conceptualised as follows;

3.4.1 Age

It is defined as the number of years of respondents at time of study since birth. The scoring procedure was adopted from the study conducted by Mwale (2006). Some modifications as applied for his master's dissertation study were made.

Table 3: Age scoring procedure

SI No.	Category	Codes
1	Less than 20 years	1
2	20-29 years	2
3	30-39 years	3
4	40-49 years	4
5	More than 50 years	5

3.4.2 Education

It is defined as stage of formal schooling of the respondent at time of study and their ability to read and write.

Illiterate farmers are those people who did not able to read and write, people who can only read, functionally literate those who can read and write, people with primary education (up to eighth standard in schools), people with secondary education are those who have gone up to form four in schools) and College/ University (those with pre degree/ degree/ diploma). Scoring procedure followed by Jayasree (1995) was adopted with some modifications.

Table 4: Education scoring procedure

Sl. No.	*Literacy*	Code
1	Illiterate	1
2	Can read only	2
3	Functionally literate (Can read and write)	3
	Education	
4	Primary education	4
5	Secondary education	5
6	College/ University	6

3.4.3 Occupation

Occupation is operationalised as the profession/ employment of the respondent from which major sources of income comes. Categorisation and scoring as followed by Anup (2003) to measure occupation is given as;

Table 5: Occupation scoring procedure

SI No.	Category	Codes
1	Government servant	1
2	Private sector	2
3	Farmer	3
4	Business person	4
5	Agricultural labourer	5
6	Jobless	6

3.4.4. Access to credit facilities

Access to credit facilities is defined as easiness and efficiency of small scale farmers to obtain loans/ credits from financial institutions for supporting their enterprises.

Since literature search did not provide data similar on access to credit facilities, an arbitrary scale for measuring was developed and adopted to suit the present study. The scoring pattern is as follows;

Table 6: Access to credit facilities scoring procedure

SI No.	Statement	Options
1	Proximity to your nearest lending institution/agency	Very near/ not far/ far away/ don't know where it is.
2	Who do you approach when you need a small loan	Bank/ Govt agencies/ NGO/ Private money lender/ neighbours or friends/ none at all.
3	How would you rate the interest rate?	Very high/ high/ reasonable/ low/ very low
4	How would you rate the loan procedures?	Tedious/ difficult/ somewhat difficult/ okay/ easy
5	How fast do you get a loan when you apply for it?	Very fast/ fast/ in reasonable time/ slow/ very time consuming/ never done.

3.4.5 Farmer business orientation

Farmer business orientation is defined as the capacity of rural farmers to come forward and take up own business activities or enterprises.

Jayalekshmi (2001) in her study on empowerment of rural women measured initiative by using an arbitrary scale which consists of six statements. The respondents were asked to state whether they agree or disagree for each of the statements and a score of one and zero were assigned for agreement and disagreement respectively. In the case of negative statement, scoring pattern was reversed. Scores for each of the respondents was obtained by summation of the score for all six statements. Score ranges from zero to six.

Table 7: Farmer business orientation scoring procedure

SI No.	Statements	Options
1	I will start a new venture only if someone prompts me	Agree/ Disagree
2	I am ready to join a training course which will equip me to start self employment	Agree/ Disagree
3	I will take an initiative to form a self help group to acquire loan from government/ institutions to start a business	Agree/ Disagree
4	I will go and collect information about financial assistance to start an enterprise	Agree/ Disagree
5	Even though loan will be provided with all facilities, I am not ready to take up an enterprise	Agree/ Disagree
6	It is only because of my own efforts that i have acquired sufficient knowledge to start an enterprise	Agree/ Disagree

3.4.6 Commodity transportation

It is defined as the ability to easily and efficiently convey produce from the production sites to the marketing centres with minimum costs incurred for optimising returns. Easy access denotes the ability of farmers to move produce with minimum effort or without much labour to markets. Efficiency entails how fast farmers are able convey their goods from production sites to market areas.

In the present study, an arbitrary scale for measuring transportation facilities was developed and adopted as follows;

Table 8: Commodity transportation scoring procedure

SI No.	Statement	Options
1	How do you usually take your commodities to market?	Personally carry them/ animal driven cart/ small truck/ truck/ another other
2	How are the road facilities for you?	Concrete/ tarred road/ good mud road/ rough mud road/ partially through road and partially village path/ no proper roads
3	How do you avail a conveyance?	Own/ borrowed/ rented/ hired/ public transport/ any other
4	How easily do you get transport facilities?	Very easy/ easy/ not easy/ difficult/ very difficult
5	How would you rate the reliability of the conveyance?	Very reliable/ reliable/ not very reliable/ problematic
6	How would you rate the transport expenses?	Very expensive/ expensive/ reasonable/ cheap/ very cheap

3.4.7 Achievement motivation

Achievement motivation is defined as the desire for a standard of excellence in order to attain a sense of personal accomplishment. Achievement motivation scale as developed by Manohari (1988) consists of 7 statements. In this case, a five point continuum scale has been adopted as follows;

Table 9: Achievement motivation scoring procedure

SI No.	Response	Codes
1	Strongly agree	4
2	Agree	3
3	Undecided	0
4	Disagree	1
5	Strongly disagree	2

Scores ranges from 0 to 25.

3.4.8 Monthly income

Monthly income is operationalised as earning of the respondents from all sources in a particular month to support the household's basic needs. The scoring procedure as used by Grant (2002) was adopted with some modification in measuring as follows;

Table 10: Monthly income scoring procedure

SI No.	Monthly income in Malawi Kwacha (MK)	Codes
1	Less than 10,000	1
2	Between 10,000 and 30,000	2
3	Between 30,000 and 50,000	3
4	Greater than 50,000	4

3.4.9 Business information

It is defined as extent to which small scale farmers have adequate and sufficient access to information regarding their businesses from different communication sources.

Jayalekshmi (1996) in her study concerning information seeking behaviour was measured using the scale in which respondents were asked to indicate the frequency with which they have contact with various communication sources.

The scoring pattern adopted was; always with a score of 2, sometimes with a score of 1 and never with a score of 0. The sum of the scores obtained on various communication sources gives the total information availability/ accessibility.

3.4.10 Use of information sources

The information sources used were studied in terms of utilization of both mass media sources and interpersonal sources of communication. The scoring procedure was adopted from the study done by Babu (1995). An indexed score on mass media utilization has been provided as; most often with a score of 3, often 2, sometimes 1 and rarely 0.

The scores were summed up across each item to form the index of mass media utilization. Interpersonal source utilization is operationally defined as the extent of use of different personal sources by a farmer with a view to obtain information about management of successful business enterprises.

The interpersonal source utilization was measured as adopted by Babu (1995). The respondent was asked to indicate as to how often he/ she received information regarding management of successful business enterprises from each of the personal sources. The obtained scores were summed up across each item to form the index of interpersonal source utilization. The index for information sources used of each respondent was arrived at by summing up the indices of both mass media source and interpersonal source utilization. After obtaining the total score standard deviation and mean were worked out and grouped as high, medium and low categories of information sources utilization.

3.4.11 Innovativeness

Innovativeness denotes the quality of being innovative. An innovation involves creation of entirely new knowledge as well as an idea perceived as new. Hall (2003) defined Innovation as the continuous process of upgrading using new knowledge or the new combination of existing knowledge that is new to the local area. It is operationally defined as one who shows interest in seeking new idea and bringing change in his/ her enterprise.

The scoring procedure followed by Allan (2004) was adopted in this study as shown below. The respondents were classified into low and high based on the responses given by them to a query as to when would they prefer to adopt an improved practice that would help in achieving agro biodiversity conservation. It was coded as yes with score of 1 and no with score of 0.

3.4.12 Enterprise/ Business sales profit

Here enterprise/ business profit entails an accounting concept intended to measure the surplus of revenue over expenses for a particular period of time. A profit and loss financial statement is an indicator of health of an enterprise (Profit= total revenue – total expenses). Grant (2002) calculated and estimated Business Profits for the study as follows; Questions were designed to allow calculation of a crude profit measure for each firm. Each respondent was asked to value on average sales in good, bad, and average months.

Data was also collected on how many good, bad, and average months the business had in the previous year. From these, an estimate of annual sales was constructed. Respondents were also asked to list business expenses, and from this an estimate of annual expenses was made. The difference can be taken as a rough approximation of annual MSE profits. Three things should be noted about calculation of business profit.

1. No effort will be made to establish the opportunity costs, so this measure is more of accounting profits than of economic profit.
2. No effort will be made to account for asset depreciation, as this would require accurate current valuation of assets, as well as knowledge of the real value at purchase.

3. This measure will mainly be crude indicator of profitability, since most of the responses are most likely to be based on recall memories rather than on written accounts record.

3.4.13 Season wise production (during the past three years)

It is defined as the enterprises that the respondents are engaged in production as part of livelihood activities. Enterprises entail activities such as crops, vegetables and livestock production. Each activity covers different types of commodities produced in total for each season

Table 11: Season wise production scoring procedure

SI No.	Season	Enterprises	Quantity produced (Kg or #)			Investment (MK)	Value of sales (MK)
			Produced	Home consumption	Quantity sold		
1	08-09	Food grains					
		Tubers					
		Vegetables					
		Fruits					
2	09-10	Food grains					
		Tubers					
		Vegetables					
		Fruits					
3	10-11	Food grains					
		Tubers					
		Vegetables					
		Fruits					

Duration of three years was determined in order to learn on the trends of production for different enterprises in relation to investment costs and returns.

3.4.14 Exposure to extension sources

Exposure to extension services is defined as the extent to which rural farmers are exposed to different extension services through extension agents, radios, television, newspapers etc.

Jayalekshmi (1996) in her study measured mass media by a scale where respondents were asked whether they have contact with various mass media. She adopted scoring as; Yes representing 1 and No representing 0. If yes, respondents were asked to indicate frequency by scoring procedure adopted as; always with score of 2 and sometimes with score of 1. The score obtained for each item was summed up to arrive at the individuals total score for mass media contact.

Measurement of dependent variable

3.4.15 Household Commercialisation Index (HCI)

3.4.15.1 Smallholder commercialization

It is part of an agricultural transformation process in which individual farms shift from a highly subsistence-oriented production towards more specialized production targeting markets both for their input procurement and output supply. Agricultural commercialisation has commonly been defined as the *degree of participation in the (output) market*, with the focus very much on cash incomes.

For food production systems, Pingali and Rosegrant (1995) described farmers' level of market orientation using three classifications: *"subsistence systems", "semi-commercial systems" and "commercial systems"* **(Table 12).** Each classification has different farmer objectives, sources of inputs, product mix and household income sources, echoing our discussion above of the multiple dimensions of commercialisation.

Table 12: Characteristics of food production systems with increasing commercialisation

Level of Market Orientation	Farmer's Objective	Sources of Inputs	Product mix	Household income sources
Subsistence Systems	Food self-Sufficiency	Household generated (non-traded)	Wide range	Predominantly agricultural
Semi-Commercial Systems	Surplus Generation	Mix of traded and non-traded Inputs	Moderately Specialised	Agricultural and non-agricultural
Commercial Systems	Profit Maximisation	Predominantly traded inputs	Highly Specialised	Predominantly non-agricultural

Source: Reproduced from Pingali and Rosegrant (1995)

At first sight, this typology presents a rather linear trajectory that sees farmers, indeed agriculture sectors progressing over time from subsistence through a state of semi-commercialisation to a commercial system. Clearly defined characteristics along the four criteria – each one captured on a scale or hierarchy. The transition is described thus: as economies grow, households shift away from traditional self-sufficiency goals and towards income and profit-oriented decision making with farm outputs accordingly becoming more responsive to market trends. The returns to intensive subsistence production systems that require high levels of family labour generally decline relative to production for the market with predominant use of hired labour. The proportion of farm income in total household income declines as family members find more lucrative non-agricultural employment opportunities (Pingali and Rosegrant, 1995).

3.4.15.2 Conceptualisation of smallholder commercialization

This is an important aspect which needs to be measured in order to analyse and understand the determinants of commercialization. There are a number of different ratios developed to measure the degree of household commercialization depending on different indicators which emanate from the way commercialization is conceptualized. Some authors use econometric models derived from the conventional non-separable agricultural household models to evaluate their resource allocation decisions for producing commodities consumed at home (food crops) versus those supplied to markets (cash crops).

Others use simple indices (ratios) to look at the proportions of resources or income derived from the market. In some cases, these indices are focusing on either input or output side commercialization, whereas in others, they combine the two and look at overall market transactions of a farm household. Nevertheless, there has been no accepted and comprehensive definition that could give a multidimensional view to the smallholder commercialization concept so that one can easily judge to what extent a given farm household is commercialized in its overall production, marketing and consumption decisions

3.4.15.3 Methodologies in examining the degree of commercialization

As indicated earlier, one method of evaluating household commercialization is econometric analysis. Von Braun *et al.,* (1994) stated that allocation decisions could be estimated econometrically by using reduced form equations with an extended list of exogenous explanatory variables that affect many structural relations. The most common approach used in measuring the degree of commercialization at a household level has been using the proportion of sales from the total value of agricultural production. This is actually revealed in marketing decision of a household, particularly for commodities that are potentially used for sale and home consumption (Randolph, 1992).

In measuring household-specific level of commercialization, Govereh *et al.*, (1999) and Strasberg *et al.*, (1999) used a household commercialization index (HCI), which is a ratio of the gross value of all crop sales per household per year to the gross value of all crop production. This ratio does not incorporate the livestock subsector, which could be more important than crops in some farming systems. Crop Commercialisation Index (CCI) was conceptualised as ratio of the gross value of all crop sales to the gross value of all crop production. According to them HCI and CCI are calculated as;

$$HCI_i = [\text{Gross value of crop sales}_{hh\ i'\ year\ j} / \text{Gross value of all crop production}_{hh\ i'\ year\ j}] * 100$$

Where; $_{hh\ i'\ year}$ *denote per household per year*

$$CCI = [\text{Gross value of all crop sales} / \text{Gross value of all crop production}] * 100.$$

A value of zero for the CCI signifies total subsistence, while a CCI value approaching 100 indicates higher degrees of commercialisation i.e. a greater percentage of crop production marketed. CCI very effectively brings subsistence food production to the centre of discussions about commercialisation. CCI falls below 100 to the extent that households devote their land, labour and capital resources to the production of food for own consumption, rather than to the production of crops (food or otherwise) for sale to the market. A big advantage of this approach is that commercialisation is treated as a continuum, thereby avoiding crude distinctions between "commercialised" and "non-commercialised" farms. There is some substance to this criticism and that interpretation of any empirical results based on the CCI needs to take the phenomenon of "distress" sales into account.

However, some households may sell commodities that are not intentionally produced for markets "*distress sales*". In this case, considering the proportion of sale as an indicator for the degree of commercialization may lead to a wrong conclusion. Therefore, in addition to the revealed marketing decisions, commercialization should also try to incorporate such indicators

3.5 METHODS OF DATA COLLECTION

The data was collected using well structured and pre-tested interview schedule prepared for the study **(Appendix 1).** A draft interview schedule was prepared and pre-tested by conducting a pilot study in non sample area. This assisted to make appropriate changes and improvements in the final interview schedule to be directly administered to the farmers by the investigator. The responses were recorded at the time of interview. The data was collected in February 2012 by directly interviewing the farmers by the researcher **(Appendix VI)**

3.6 STATISTICAL TOOLS USED IN THE STUDY

The collected data was scored, tabulated and analysed using Statistical Package for Social Scientists (SPSS version 16) method. The statistical tests used for analysis and interpretation of data included;

3.6.1 Descriptive statistics such as cross tabulation, frequencies and percentages

3.6.2 Regression Multinomial Logistics

3.6.3 Household Commercialisation Index (HCI)

3.6.4 Crop Commercialisation Index (CCI)

3.6.5 Enterprise profit as percent of annual crop sales

3.6.1 Descriptive statistics

Simple percentage, cross tabulation and frequencies were worked out to find out distribution of farmers according to different variables. The results of independent variables selected for the study were interpreted using this analysis.

Classification of sample population into different categories was calculated as follows;

Values	Range (score)	Category
≥ mean	(≥ mean + standard deviation)	High
Between	(≥ mean + standard deviation) + (≤ mean - standard deviation)	Medium
≤ mean	(≤ mean - standard deviation)	Low

3.6.2 Regression Multinomial Logistics

SPSS was used to analyse the relationships between a non-metric dependent variable and metric or dichotomous independent variables. It will assist study the presence of relationship between the dependent variable and the combination of independent variables.

3.6.3 Household Commercialisation Index (HCI)

HCI was used to measure, analyse and understand the determinants of commercialization of smallholder farmers. It helped to determine to what extent a given farm household is commercialized in its overall production, marketing and consumption decisions. It was computed as follows;

$$HCI_i = [Gross\ value\ of\ crop\ sales_{hh\ i'\ year\ j} / Gross\ value\ of\ all\ crop\ production_{hh\ i'\ year\ j}] * 100$$

Where; $_{hh\ i'\ year}$ *denote per household per year*

3.6.4 Crop Commercialisation Index (CCI)

CCI was computed to determine the quantity of produce per enterprise that is marketed by the individual household. It was calculated as;

$$CCI = [Gross\ value\ of\ all\ crop\ sales / Gross\ value\ of\ all\ crop\ production] * 100.$$

3.6.5 Enterprise profit as percent of annual crop sales

Profit as percent of annual crop sales per enterprise was computed in order to determine profit realized for each quantity of produce that is marketed. It was computed as a ratio of average annual profit to average annual sales for each enterprise.

RESULTS

CHAPTER IV

RESULTS

This chapter highlights the results of the study as per the prescribed methodology. The results have been presented in a way to directly address the objectives of the study as follows;

4.1 Analysing the internal factors and external factors influencing the sector.

4.2 Examining the supply chain dynamics in the major groups of agricultural commodities dealt by the informal sector.

4.3 The spatial distribution of the informal sector and their contribution to the local markets.

4.4 Policy suggestions for scaling up the role of informal sector in promoting food security and poverty reduction in rural Malawi.

4.1.0 Analysing the internal factors and external factors influencing the sector.

4.1.1 Socio-economic characteristics of respondents

The variables such as age, gender, education, occupation and income of the respondents were measured.

4.1.1.1 Age of the respondents

Table 13: Distribution of the respondents according to age (N = 120)

SI. No.	Age (Years)	Frequency	Per cent
1	≤20	5	4.2
2	20 – 39	77	64.1
3	≥39	38	31.7
Total		**120**	**100.0**

Source: Survey data, 2012

From the table above, it was observed that the majority of respondents fall under age group of 20-39 years representing 64.1 per cent. 4.2 per cent fell over the age group of less than 20 years while 31.7 per cent were in the age of more than 39 years. Hence, this means that the middle and adult age groups were more involved in the informal sector activities.

4.1.1.2 Gender of the respondents

Table 14: Gender of the respondents* Cross tabulation results (N = 120)

Level of commercialisation		Gender of the respondent		Total
		Male	Female	
No commercialisation	*Count*	*14*	*32*	*46*
	Per cent within Gender	**30.4**	**43.2**	**38.3**
Medium level of commercialisation	*Count*	*14*	*25*	*39*
	Per cent within Gender	**30.4**	**33.8**	**32.5**
Commercialisation	*Count*	*18*	*17*	*35*
	Per cent within Gender	**39.2**	**23.0**	**29.2**
Total	*Count*	*46*	*74*	*120*
	Per cent of total	**38.3**	**61.7**	**100.0**

Source: Survey data, 2012

Under no commercialisation, 43.2 per cent within the gender group were females and 30.4 per cent were males. For the medium level of commercialisation, 33.8 per cent within the gender group were females and 30.4 per cent were males. Lastly, under commercialisation, 23.0 per cent within the gender group were females and 39.1 per cent were males.

It can therefore be inferred that the majority of gender group involved in the informal sector interventions were females represented by 61.7 per cent of total respondents.

4.1.1.3 Education status of the respondents

Education of the respondents was found to be significant at 8 per cent as represented in **table 22.** An odds ratio of 1.456 indicated 59.28 per cent probability of matching from medium level of commercialisation towards commercialisation based on education status. This reveals that education of respondents was directly influencing farmers in operation and management of informal sector interventions.

Table 15: Distribution of respondents according to education status (N=120)

SI. No.	Education status	Frequency	Percentage
1	Illiterate	26	21.7
2	Can read only	1	0.7
3	Functionally literate (read and write)	13	10.8
4	Primary education	60	50.0
5	Secondary education	20	16.7
Total		**120**	**100.0**

Source: Survey data, 2012

The table above reveals that 50 per cent of the respondents had gone up to primary education. Only 16.7 per cent had completed their secondary education and the rest (33.2 per cent) were below primary education. This result implies that the majority of respondents had gone up to the eighth standard.

4.1.1.4 Occupation of the respondents

Table 16: Distribution of respondents according to occupation (N = 120)

SI. No.	Occupation	Frequency	Percentage
1	Farming and agri-business	84	70.0
2	Agri-business	25	20.8
3	Farming	11	9.2
Total		**120**	**100**

Source: Survey data, 2012

Table 16 shows that almost two-third of the respondents were involved in farming and agri-business enterprises. Nearly one-third of them were engaged in agri-business and the rest were just farmers. This denotes that most of the respondents took farming as business enterprise for their livelihood.

4.1.1.5 Monthly average income

Average monthly income of the respondents was found to be significant at 7 per cent as reflected in **table 22.** An odds ratio of 0.577 indicated 36.59 per cent probability of matching from no commercialisation to middle level of commercialisation based on monthly income levels. It is therefore indicating that income level has a positive bearing on informal sector activities in terms of financing and operating the activities.

Table 17: Level of commercialisation* Monthly average incomes cross tabulation (N = 120)

Monthly average income ('000 MK)						
Level of commercialisation		**< 10**	**10 – 30**	**30 – 50**	**> 50**	**Total**
No commercialisation	*Count*	*17*	*25*	*2*	*2*	*46*
	Per cent within average income	**48.60**	**37.90**	**16.70**	**28.60**	**38.30**
Medium level of commercialisation	*Count*	*11*	*22*	*3*	*3*	*39*
	Per cent within average income	**31.40**	**33.30**	**25.00**	**42.90**	**32.50**
Commercialisation	*Count*	*7*	*19*	*7*	*2*	*35*
	Per cent within average income	**20.00**	**28.80**	**58.30**	**28.60**	**29.20**
Total	*Count*	*35*	*66*	*12*	*7*	*120*
	Per cent within average income	**29.20**	**55.00**	**10.00**	**5.80**	**100.00**

Source: Survey data, 2012

Under no commercialisation, almost 49 per cent had average monthly income of less than MK10,000 and only 17 per cent had average monthly income of MK30,000-MK50,000. As such, the majority are having less income levels to support income generating activities and they are forced not to participate in commercialisation.

On medium level of commercialisation, 43 per cent had average monthly income more than MK50,000. 31 per cent of them had less than MK10,000 and the rest income categories of 33 per cent and 25 per cent. This shows that the majority can meet and finance the initial investment costs without necessarily relying on external support.

On commercialisation, 58 per cent had average monthly income between MK30,000-MK50,000 and only 20 per cent had income level of less than MK10,000. This implies that the majority are already into commercialisation and needed to maintain their established enterprises.

It is therefore, inferred that the majority of respondents had average monthly income of MK10,000-MK30,000 (55 %). Nearly 29 per cent had income of less than MK10,000, 10 per cent had income between MK30,000-MK50,000 and only 6 per cent had average monthly income of more than MK50,000. Overall the average monthly income levels for the majority was less and not sufficient enough to support commercialisation of agro-based enterprises.

4.1.2 Access to credit facilities

Access to credit facilities of the respondents was found to be significant at 8.6 per cent as reflected in **table 22.** An odds ratio of 0.911 indicated 47.67 per cent probability of matching from no commercialisation to middle level of commercialisation for this variable. It is therefore clear that access to credit facilities had direct influence on informal sector activities in terms of financing and operating the activities.

Table 18: Distribution of respondents according to access to credit facilities (N = 120)

Sl. No.	Category	Range (score)	Frequency	Percentage
1	Low access to credit facilities	≤ 9	24	20.00
2	Medium access to credit facilities	9 – 15	73	60.83
3	High access to credit facilities	≥ 15	23	19.17
Total			**120**	**100**

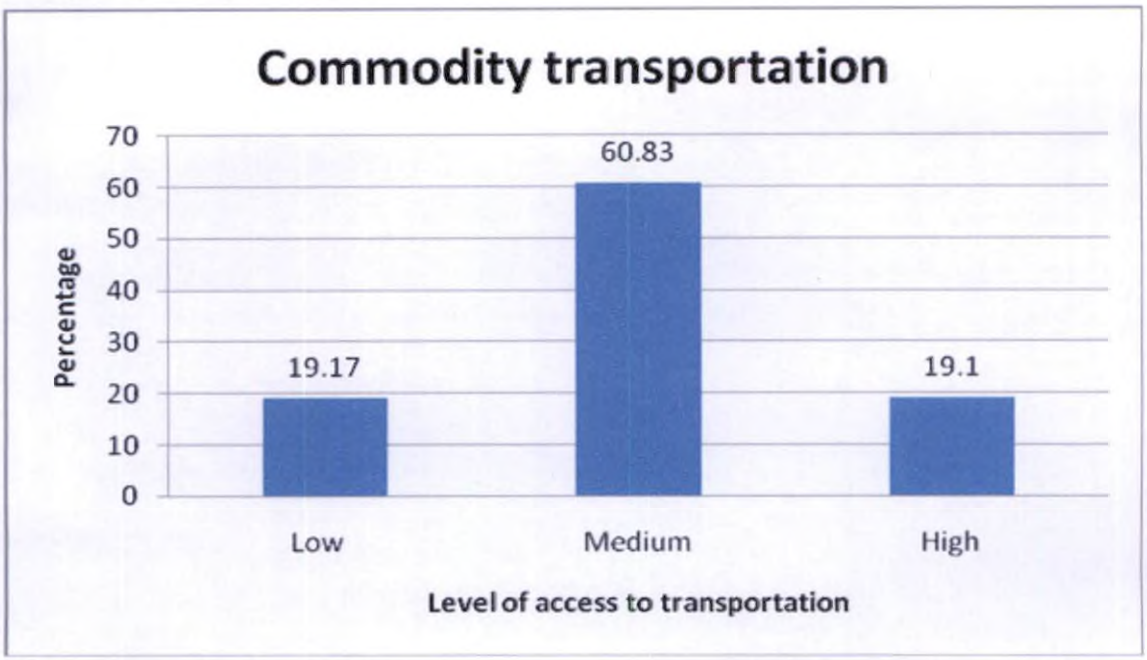
Source: Survey data, 2012

The results indicates that almost 60 per cent of respondents had medium access to credit facilities whereas nearly 20 per cent of respondents were either having low or higher access to credit facilities respectively. It was noted that lending institutions/ agencies were mainly located in the main towns of the districts. The challenges noted included high interest rates and tedious loan procedures which limited farmers' interests. Farmers were travelling long distances to access credit facilities and generally proved to be costly.

4.1.3 Commodity transportation of the respondents

Commodity transportation was found to be significant at 10 per cent as indicated in **table 22.** An odds ratio of 1.109 indicated 52.58 per cent probability of matching from no commercialisation to middle level of commercialisation based on commodity transportation. This clearly shows that transportation of commodities was very essential in movement of products transacted in the informal sector.

Fig. 4: Graph showing commodity transportation



Source: Survey data, 2012

It was observed that 60.83 per cent of respondents had medium access to transportation facilities. Nearly 19 per cent of respondents had low and high access to transportation facilities respectively. The common means of transporting commodities was by carrying on their heads, using bicycles and in some cases they used small truck (pick-ups). Very few farmers relied on using vehicles due to high costs. The poor road facilities also contributed to the problem because they become impassable during rainy seasons. This further prompted farmers to rely on selling their produce to nearby local markets.

4.1.4 Farmer business orientation

Farmer business orientation was found to be significant at 9.7 per cent as reflected in **table 22.** An odds ratio of 0.662 indicated 39.83 per cent probability of matching from no commercialisation to middle level of commercialisation for this variable. This clearly indicates the relevance of business orientation towards the success of informal sector activities.

Table 19: Distribution of respondents according to business orientation (N = 120)

Sl. No.	Group	Range (score)	Frequency	Percentage
1	Low business orientation	≤ 2	20	16.67
2	Medium business orientation	$2 - 5$	87	72.50
3	High business orientation	≥ 5	13	10.83
Total			**120**	**100**

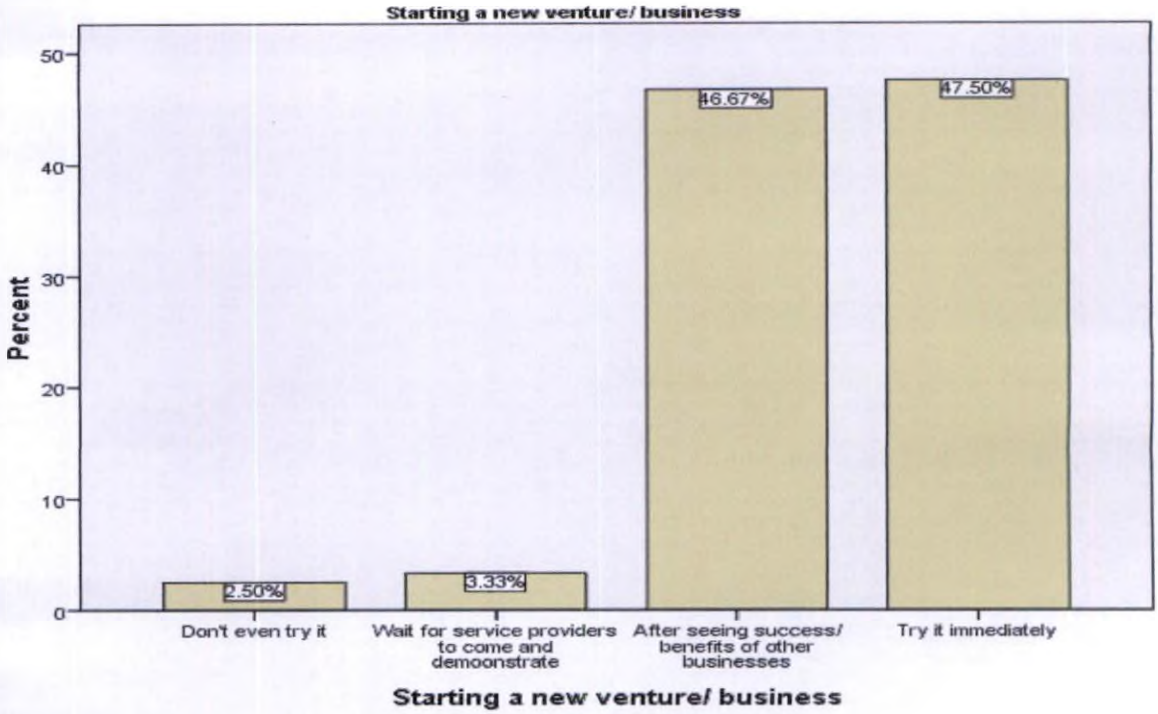
Source: Survey data, 2012

It was noted that almost 83 per cent of respondents had medium business orientation while 17 per cent of them had low business orientation. High business orientation is also directly linked to high innovativeness among the respondents. The two reflects on high chances of adoption rates among respondents.

4.1.5. Innovativeness

Starting new businesses/ enterprises was found to be significant at 5.6 per cent as indicated in **table 22.** An odds ratio of 2.221 indicated 68.95 per cent probability of matching from no commercialisation to middle level of commercialisation based on innovativeness of respondents. This justifies the importance of innovativeness in the success of informal sector activities.

Fig. 5: Graph showing starting a new venture/ business



From **figure 5,** it was observed that 47.50 per cent of respondents try immediately new innovative practices in order to start new business venture while 46.67 per cent would venture into new businesses after seeing success/ benefit of other businesses. Only 2.50 per cent of respondents did not try new innovations whereas 3.33 per cent of them wait for service providers to demonstrate new innovations. It therefore noted that the majority of respondents try new innovations immediately on their own or wait for success/ benefits from others in order to engage into new enterprises.

4.1.6 Information source utilisation

Information source utilisation was significant at 6.1 per cent as reflected in **table 22.** An odds ratio of 0.799 indicated 44.41 per cent probability of matching from no commercialisation to middle level of commercialisation for this variable. It is clear then that information source utilization plays a great role in enhancing the efficiency of informal sector activities.

Table 20: Distribution of respondents according to information source utilisation (N = 120)

SI. No.	Category	Range (score)	Frequency	%
1	Low information source utilisation	≤ 14	20	16.67
2	Medium information source utilisation	14 – 19	69	57.50
3	High information source utilisation	≥ 19	31	25.83
Total			**120**	**100**

Source: Survey data, 2012

The majority of respondents had medium to high information source utilisation (83%). Only 17 per cent of them had low access. Mass media and interpersonal communication channels were most prevalent. On mass media, radios were regularly used, sometimes used posters while television and exhibitions were rarely used. On interpersonal channels, friends/ relatives and extension agents were regularly used while contact farmers were seldom used.

4.1.7 Exposure to extension sources

Exposure to extension sources was significant at 1.8 per cent as reflected in **table 22.** An odds ratio of 0.757 indicated 43.08 per cent probability of matching from middle level of commercialisation to commercialisation for this variable. It is therefore inferred that exposure to extension sources is an essential feature in informal sector activities in terms of accessing technical aspects as well as other useful linkages and support for farmers.

Table 21: Distribution of respondents according to exposure to extension sources (N=120)

SI. No.	Category	Range (score)	Frequency	%
1	Low exposure to extension sources	≤ 9	26	21.67
2	Medium exposure to extension sources	9 – 13	85	70.83
3	High exposure to extension sources	≥ 13	9	7.50
Total			**120**	**100**

Source: Survey data, 2012

The table above indicates that 71 per cent of respondents had medium exposure to extension sources. Eight per cent of respondents had high exposure to extension sources and only 21 per cent had low exposure. The majority of respondents frequently relied on extension personnel from government, community group discussions and friends/ relatives. Very few respondents relied on contacting private institutions.

4.1.8 Results of Multinomial Logistic regression

Table 22: Multinomial Logistic regression statistics

Likelihood Ratio Tests				
Effect	**Model Fitting Criteria**	**Likelihood Ratio Tests**		
	-2 Log Likelihood of Reduced Model	**Chi-Square**	**df**	**Sig.**
Intercept	234.312	0	0	
Age	234.616	0.304	2	0.859
Education	237.604	3.293	2	**0.08****
Occupation	236.146	1.835	2	0.400
Credit facilities	238.274	3.962	2	**0.086****
Business orientation	237.297	2.986	2	**0.097****
Innovativeness	239.081	4.769	2	**0.056****
Commodity transportation	156.422	2.754	2	**0.10****
Monthly Income	157.165	3.496	2	**0.070****
Extension sources	242.292	7.981	2	**0.018****
Information source use	238.121	3.809	2	**0.061****
Gender	237.074	2.762	2	0.251
Note: ** Significance level at 10%				

Source: Survey data, 2012

The **table 22** above shows results of multinomial regression logistic analysis computed for different variables as they relate to the informal sector activities. Eight variables were found to be significant at 10 per cent.

4.1.9 Odds ratio and percent probability of matching pertaining to different levels of commercialisation

Table 23: Odds ratio and percent probability of matching

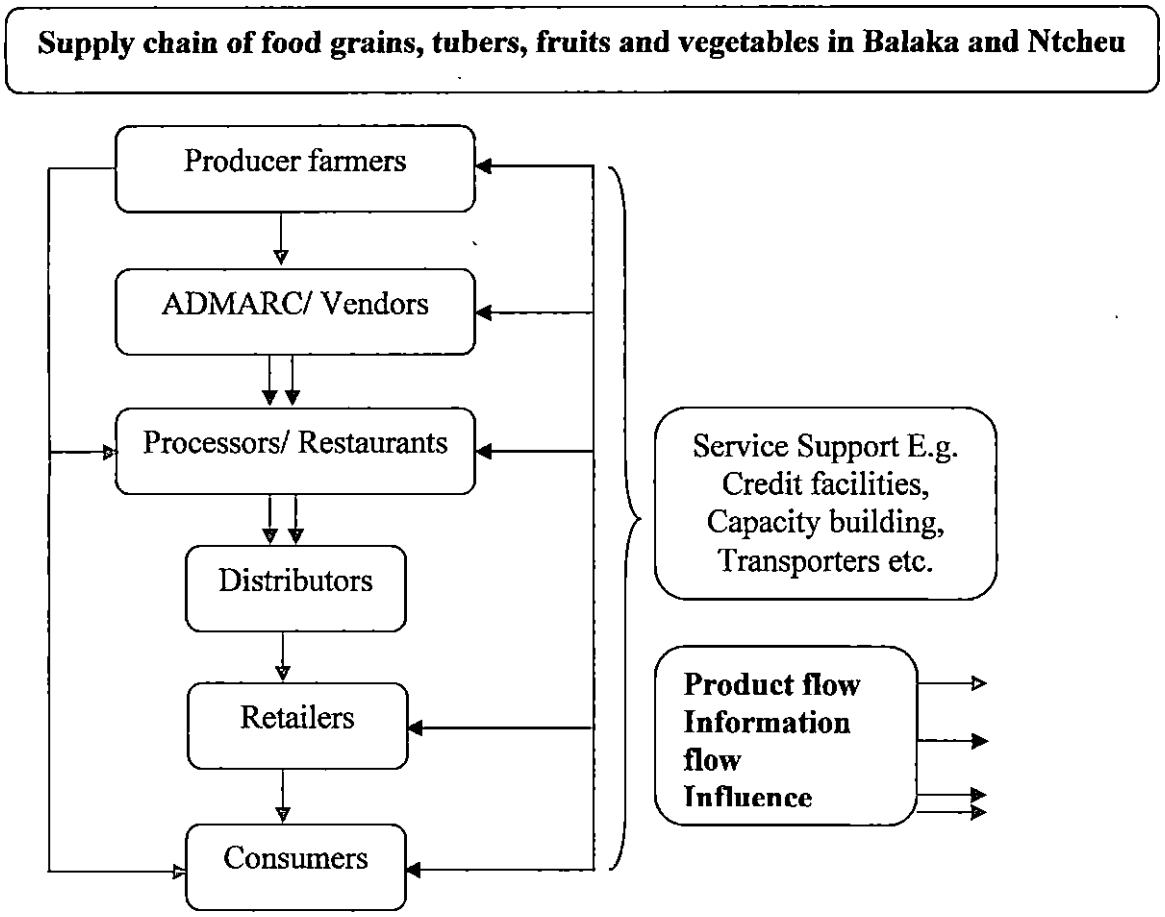
Level of commercialisation	Variables	Odds ratio	% probability
No commercialisation to medium level of commercialisation	Credit facilities	0.911	47.67
	Farmer business orientation	0.662	39.83
	Innovativeness	2.221	68.95
	Commodity transportation	1.109	52.58
	Monthly income	0.577	36.59
	Information	0.799	44.41
Medium level of commercialisation to commercialisation	Education	1.456	59.28
	Extension services	0.757	43.08

Source: Survey data, 2012

Table 23 above provides a summary of computed odds ratio and percent probability of matching from subsistence farming towards commercialisation. Two variables, education status and extension services were important at medium level of commercialisation while the other six variables were useful at subsistence level of farming.

4.2.0 The supply chain dynamics in the major groups of agricultural commodities dealt by the informal sector

Fig. 6: Supply chain analysis of food grain, tubers, fruits and vegetables



Source: Survey data, 2012

The framework illustrates the main players in the chain which include; producer farmers, ADMARC/ vendors, distributors/ restaurants, retailers and consumers. In addition, there is a service support facility in the form of credit facilities and transporters. The entire framework and set up facilitates the management and relationship among the players in the chain. The nature of their roles and control has bearing on the success of chain.

The major commodities transacted in the two districts are mainly vegetables (tomatoes, onions, cabbages, carrots, rape, pumpkin leaves, bean leaves, chinese etc.), fruits (mangoes, avocado peas, bananas, peaches, guavas, oranges, tangerines, etc), food grains especially maize and tubers (cassava, sweet potatoes and Irish potatoes). Irish

potatoes are mainly common in Ntcheu district since its climatic condition is favourable for abundant production.

The chain indicates three types of flows which describes the nature and extent of the activities taking place;

The first is the flow of products from the producer farmers to the consumers. This is the most common mode of selling produce as transacted along the four markets; Ulongwe and Mangochi Turn-off in Balaka and Kampepuza and Tsangano Turn-off in Ntcheu. The markets are strategically positioned along the main roads; Kampepuza and Tsangano Turn-off are on the M1 highway between Lilongwe (Capital city) and Blantyre (Commercial city) while Ulongwe is on the Lake Malawi Gateway main road and Mangochi Turn-off road lies on the Lilongwe and Zomba (Old capital city) highway road. **(Refer to Maps in figures 2 and 3)**

Farmers benefit from the readily available markets which run for nearly 24 hours targeting people travelling between the main towns. The frequency of vehicles along these roads has created high pockets of trading for fruits, vegetables, food grain and tubers. The market centres especially Ulongwe, Kampepuza and Tsangano Turn-off are constructed with informal structures where they transact businesses. Only Mangochi Turn-off has government supported infrastructure in addition to informal structures.

Additionally, the arrow shows the flow of products from producers to Agricultural Development and Marketing Corporation (ADMARC) or vendors. ADMARC represents government institution which is mandated in facilitating marketing of agro-based produce, farm inputs and providing cushioning mechanism towards food security in the country. It also facilitates movement of produce to the processing companies like Grain and Milling, Bakhlesa Grain and Milling etc. The final product is then distributed to retailers until it gets to the consumers.

However, regardless of ADMARC offering beneficial price to local farmers, its services have been characterised as irregular and constrained with resources such as finances, personnel, transportation and poor infrastructure. This has led to failure in

protecting farmers' interest against exploitation and creating more opportunities for increased production.

The vendors on another hand are the private traders engaged in the buying and selling of produce from producer farmers who in turn sell to processors/ restaurants. They are also involved in direct selling of produce to retailers and as well as to consumers depending on the prevailing forces of demand and supply.

Another common channel of produce flow is through the restaurant owners and retailers who directly buy produce from producer farmers. Since they have adequate information about the markets, they usually buy in bulk during peak period of harvest and in so doing they are able to bargain for better [2]farm-gate prices.

The second is the information flow in the chain. It portrays how information moves among the different players regarding movement and procurement of produce. Information is particularly useful because it ensures the smooth and efficient operation of the marketing system. It further depicts the demand for various services within the chain. Individual groups in the chain require information;

1. A producer farmers need to decide where, when and to whom is the farmer going to sell his produce and buy his inputs
2. Middlemen like ADMARC, vendors, restaurants and processors require market information to plan the purchase, storage and sale of goods
3. Government needs information to necessitate its agricultural policies such price controls, meeting emergence needs like flooding, import-export and buffer stocking[3].

Lastly, the extent of influence among the different actors is depicted. Influence in this case is defined as the nature of control among some players and their ability to manipulate the entire system in terms of prices and flow of goods and services. This results in creating inequitable returns for the producer farmers who invest more time in

[2] Farm gate prices is defined as the price that the farmer receives for selling his product at the farm excluding the cost of transport, processing, storage and marketing

[3] Buffer stocking refers to stock especially maize grain maintained by Government to cushion shocks of fluctuating supply and price, safeguard producers and stabilisation of maize supply in the country.

production. Farmers end up losing interest in farming and get less benefit from overall production.

From the figure, ADMARC/ vendors and processors/ restaurants are signifying more control in the chain. This is evident especially in product flow because they have adequate information about production. Hence, they take the initiative of directly buying from the farmers in bulk during peak harvesting times when prices tend to be relatively lower. They further control flow of products by storing procured produce and selling during lean periods so that they make more profits.

4.3.0 Spatial distribution of the informal sector and their contribution to the local markets

Map of Ntcheu and Balaka Districts has been attached showing research sites/ markets. Refer to **Maps in figures 2 and 3.** It is clear that the markets are situated along the main roads in order to target as many buyers as possible. The two districts are almost 45 kilometers away from each other.

Balaka main town is roughly 55 kilometers away from Ulongwe market while Mangochi Turn-off is nearly 30 kilometers way. Ulongwe and Mangochi Turn-off are nearly 20 kilometers apart and in the middle there is Mwima market. This is another market which is useful in marketing agricultural produce and other items. Ntcheu main town is roughly 10 kilometers away from Tsangano Turn-off while Kampepuza is nearly 22 kilometers.

The markets operate throughout the week days and special market days are set in almost all the markets. For instance, Mangochi Turn-off operates big market day on Tuesdays and Saturdays. Ulongwe operates on Saturdays. Tsangano operate on Wednesdays and Kampepuza operates on Fridays.

The markets at main towns of Balaka and Ntcheu are well developed and constructed with support from government. The markets provide for other amenities such electricity, water, storage facilities, security and vending rooms which facilitates conducive environment for growth of informal sector. Marketing infrastructural support

characterizes gradual movement towards improving informal sector efficiency. Only Mangochi turn-off has infrastructure which were constructed by government and the rest are using locally constructed structures.

The most predominant structures for selling produce are those constructed using locally sourced poles and usually provide shade to traders. This meant that produce and items for sale were not well protected to maintain good quality standards. It was noted that some traders constructed small houses for selling their items and produce in order to improve market conditions. The markets have become entry point of overall rural growth in the surrounding areas. This was evident from many other infrastructures being constructed and services being offered. It was also noted that the markets are further facilitating links for exchange between the rural and urban areas.

4.4.0 Policy suggestions for scaling up the role of informal sector in promoting food security and poverty reduction in rural Malawi.

4.4.1 Household Commercialisation Index (HCI)

The index was computed based on the size of farming field and production trends for the 3 past years of each household. Season wise production for 2008-2009, 2009-2010 and 2010-2011 were determined for different enterprises. The study targeted food grains, tubers, vegetables and fruits because they were commonly produced and transacted by farmers in the study areas.

The impact of commercialisation is therefore examined in relation to other variables because it directly influences the success of enhancing the roles of informal sector activities. Experience indicates that farmers that invest in farming as a business have high likelihood of achieving smallholder commercialisation

Table 24: Results of Household Commercialisation Index (N=120)

SI. No.	Level of commercialisation	Number of respondents	Percentage
1	Above 50%	35	29.2
2	Between 35 to 50%	39	32.5
3	Below 35%	46	38.3
Total		**120**	**100**

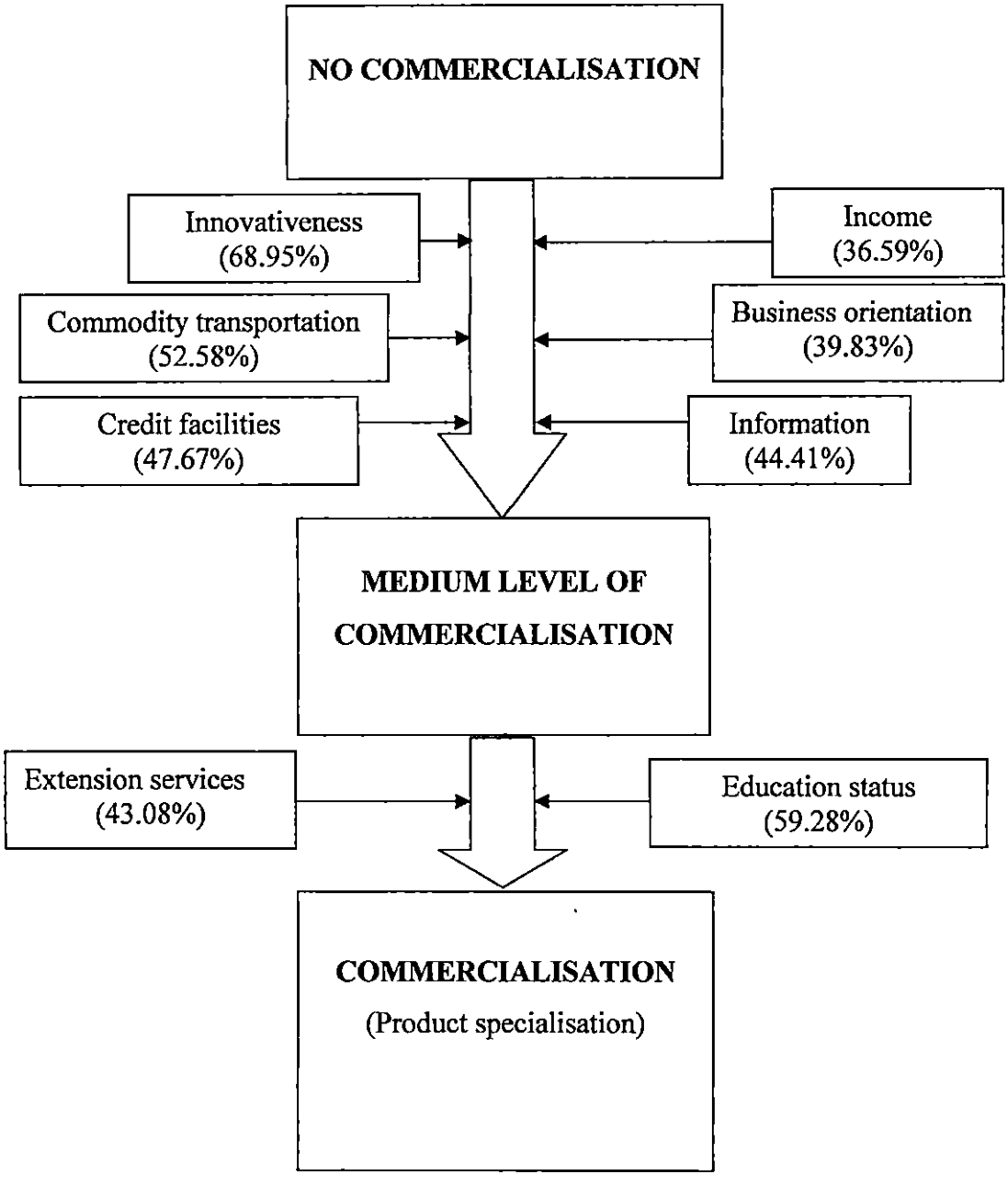
Source: Survey data, 2012

From the table, 29.2 per cent of the respondents were above 50 per cent in commercialisation of their farming enterprises and known as "*Commercial*" farmers. These are farmers that regard farming as business and take due interest to produce for consumption as well as surplus for sales. The farmers largely contribute towards regional as well as national production of crops as a result of using high yielding varieties, fertilizers and other technologies. The farmers tend to be more specialised in enterprises and are market-oriented in order to maximise profit.

According to the calculated HCI, 32.5 per cent of respondents were in the 35 to 50 per cent of commercialisation category. Also categorised as "*Semi-commercial*" farmers. These farmers are interested at producing surplus crop to meet market demand under intensive farming system. Improved farm input usage is common and sometimes resort to locally returned seeds. The farmers produce products which are moderately specialised for the market. They are cautious and diversify in order to spread market related risks because they have market information about changing demand and supply of produce.

The majority of respondents (38.3 per cent) were in the category below 35 per cent in commercialisation. They have also been categorised as "*Subsistence*" farmers. The primary aim of production is to meet household self-sufficiency using locally returned seeds, family labour and traditional practices. Their production is characterised with low yields that may risk distress sales while attempting to meet cash household obligations. They require adequate extension support to improve their production.

Figure 7: Paradigm showing the factors contributing to commercialisation



Source: Survey data, 2012

The figure above provides a framework of how smallholder farmers can achieve commercialisation of agro-based enterprises. It depicts the transitional movement in three stages from no commercialised farmers (subsistence), medium level of commercialisation (semi-commercial farmers) and commercialisation (commercialised farmers). The success of the process requires some important activities as follows;

Under no commercialisation, credit facilities, business orientation, innovativeness, commodity transportation, income and information support are deemed very useful. Each variable provides the probability of matching from no commercialisation towards medium level of commercialisation. Subsistence farmers require more of production-enhancing resources that can enhance agricultural production to achieve household self-sufficiency and surplus produce rendered for sales. Limited resources are the major constraints which hinder subsistence farmers from achieving success in their livelihood. The variable at this level reflects the fundamental role that they play through provision of adequate resources coupled with modern technologies.

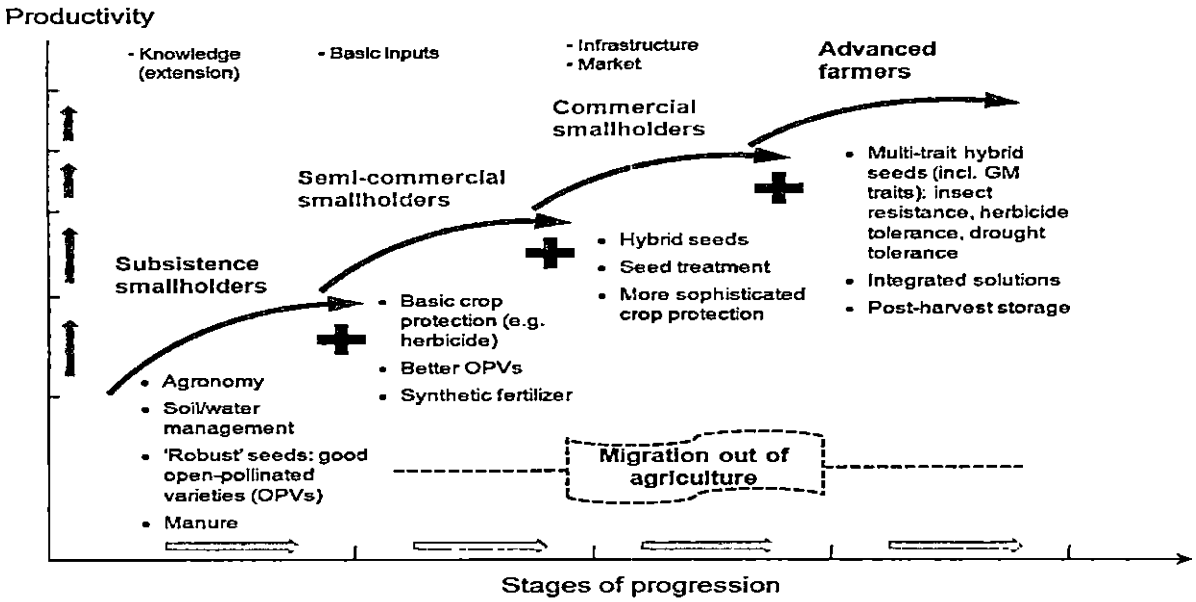
On medium level of commercialisation, farmers require support in terms of education and extension services in order to exploit market sources, production technologies, organisation and creative linkages for disposing and producing products. 59.28 per cent for education and 43.08 per cent extension depicts probability of matching from medium level of commercialisation towards commercialisation. Their economic level can support diversification of products that can result into taking advantages of the available resources.

The last phase is commercialisation which is mainly characterised by specialisation in order to maximise profits. At this stage, farmers will be more focused in production of quality based products with readily available markets whilst contributing to regional/ national production.

How enhanced production and productivity can lead to commercialisation

According to Pingali (1997), agricultural commercialization is more than marketing agricultural outputs. He argued that commercialisation has to consider both the input and output sides of production, and the decision-making behaviour of farm households in production and marketing simultaneously. Moreover, commercialization is not restricted only to cash crops as traditional food crops are also frequently marketed to a considerable extent (von Braun *et al.* 1994; Gabre-Madhin *et al.* 2007). Commodities traditionally considered as food crops may increasingly be marketed during the transformation process as households specialize. In other words, taking "*farming as a business-oriented enterprise*"

Figure 8: Process of commercialisation

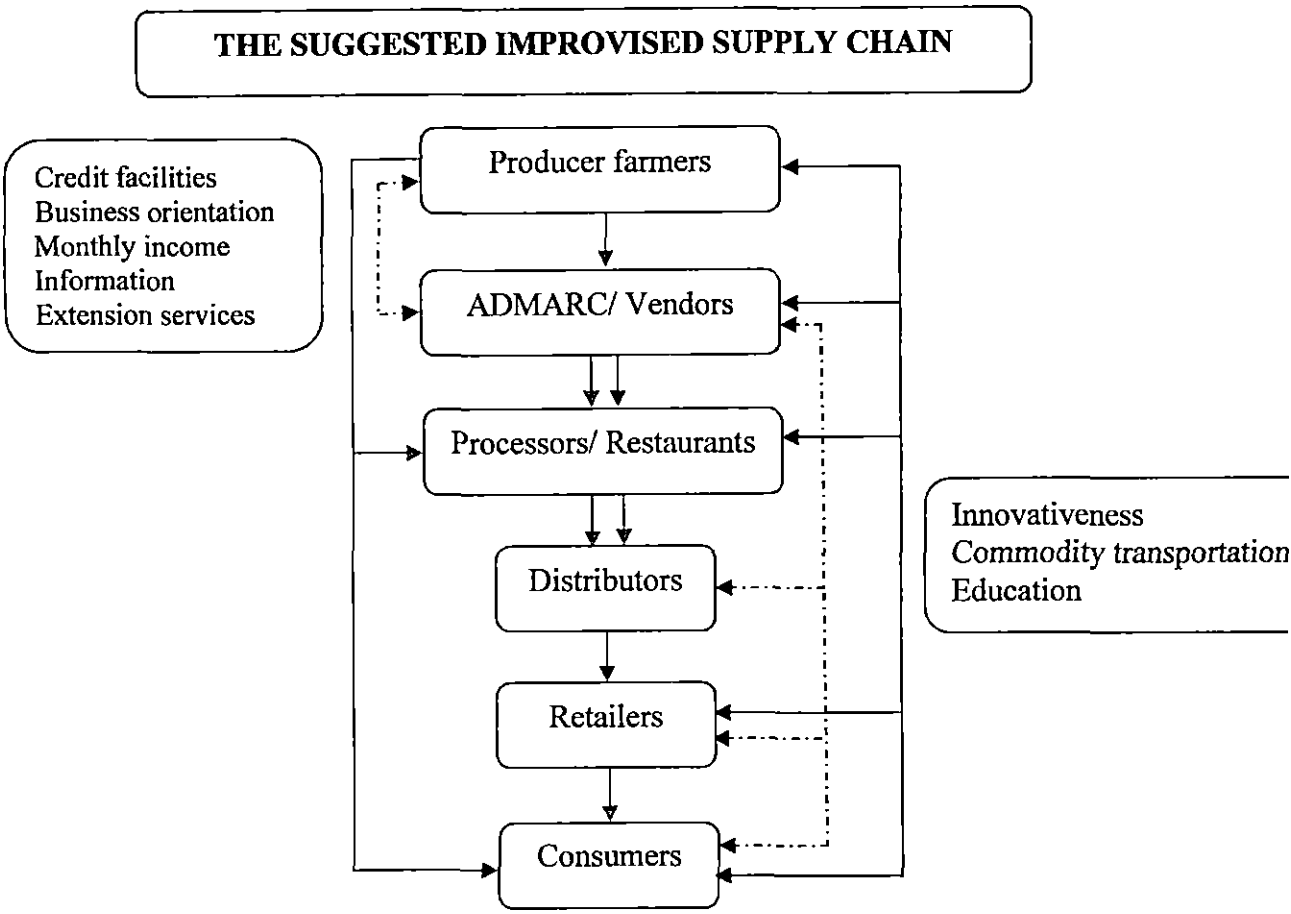


Source: Pingali, (1997)

Figure 8 is further explaining the paradigm in **figure 7,** how enhanced production and productivity can lead to commercialisation. It is indicating the efforts that are required to increase production and productivity in order to achieve commercialisation. At subsistence level, the famers must be supported with adequate improved technology, knowledge and skills through the extension service provision. When this is realised, production will be more hence there will be more produce for household consumption and surplus for sale.

At semi-commercialised farming, the farmers require more input support in form of herbicides, better OPVs and synthetic fertilizers to increase production and subsequently moving towards commercialisation. This would lead to higher production levels that would lead food security and reducing the poverty level.

Figure 9: The suggested improvised supply chain



Source: Survey data, 2012

Figure 9 indicates some key improvements that may be useful to consider while designing some interventions on the supply chain. It is described in two phases, one as it relates to the producer farmers to its buyers especially ADMARC/ vendors as indicated on the left hand side of the box. The producer farmers would require services in form of credit facilities, business orientation, monthly income, information and extension expertise. This mainly aimed at enhancing farmer productivity by advancing sufficient resources to boost their production capacity, providing adequate information services, capital base and supporting them with business oriented skills.

On another hand, there is an indication of how the ADMARC/ vendors can be linked to the distributors, retailers and consumers as shown on the right hand side of the figure. The success of the linkages can be facilitated by creating an enabling environment to players in terms of being innovativeness, commodity transportation and educating them. The farmers need to exploit production capacity that can be able to support the

market demand. Innovativeness would further promote farmer pro-activeness at studying the market needs and plan for distribution through proper transportation linkages. In order to achieve all these, the farmers would also require adequate support from experts so that coherent links are created on long term basis. The process requires an iterative route in order to enable accountability and transparency in the entire system. There must be room for information sharing among the players and ensuring consistent commodity distribution.

4.4.2 Crop Commercialisation Index (CCI) for each crop per year

Table 25: Results of Crop Commercialisation Index (CCI) for each crop per year

SI. No.	Crops	Growing season			Ranking order of crops
		2008-2009	2009-2010	2010-2011	
1	*Food grains*	37.00	34.30	33.95	4
2	*Tubers*	56.20	**70.67**	59.08	2
3	***Vegetables***	**79.25**	**68.97**	**69.40**	**1**
4	*Fruits*	44.54	60.13	33.20	3

Source: Survey data, 2012

A value of zero for the CCI indicates total subsistence. A scaling up of CCI value towards 100 percent indicates higher degrees of commercialisation i.e. a greater percentage of crop production marketed. From the computed data, vegetables represent high value of CCI averaged at 72 for the 3 years growing seasons as highlighted in bold. Therefore, growing of vegetables clearly demonstrates that high portion of production is devoted for household income source through sales and this was common to the two districts.

In addition, ranked second, third and forth represents tubers, fruit and food grains respectively. The tuber crop represents second crop which has higher potential of commercialisation with average CCI of 61 across the 3 growing seasons. This can be enhanced through creating favourable environment in farmers can scale its production as well getting better access other services such credit facilities, market linkages and capacity building just to mention a few.

Fruit production was another enterprise which requires more emphasis in terms of increasing its production and its marketability. Some individual farmers were making more money through its sales since its investment was to some extent not recurring for every year. Farmers were not bothered with yearly capital investments. The common fruits that were important included mangoes, avocado peas, bananas, oranges and guavas.

Food grains on another hand indicated the lowest CCI of average 35. This is not surprising since most household rely on food grains for consumption and in particular maize which was common is regarded as maize as staple food. The crop is usually subjected to meeting household food requirements and its intake largely depends on the number of family members. Its sales showed an inverse relationship and only when household needs are satisfied the surplus will be marketed.

4.4.3 Enterprise profit as a per cent of annual crop sales

Table 26: Results of enterprise profit as a per cent of annual crop sales (N=120)

Season	Crop	Average annual sales (MK)	Average annual profit (MK)	Profit as a per cent of annual crop sales
08-09	*Food grains*	1,450,150	665,275	45.62
	Tubers	***364,600***	***278,470***	***76.38***
	Vegetables	***659,600***	***518,400***	***78.59***
	Fruits	***88,550***	***74,655***	***84.31***
09-10	*Food grains*	1,672,900	700,730	41.89
	Tubers	***571,400***	***490,500***	***85.84***
	Vegetables	***655,550***	***509,800***	***77.77***
	Fruits	***202,600***	***146,250***	***72.19***
10-11	*Food grains*	1,857,240	895,710	48.23
	Tubers	***545,600***	***447,425***	***82.01***
	Vegetables	***655,050***	***514,250***	***78.51***
	Fruits	***80,250***	***74,450***	***92.77***

Source: Survey data, 2012

An analysis of enterprise profit as percentage of annual crop sales was another important area worth considering in terms of crop diversification. From the **table 26**, it is very clear that the percentage of sales from vegetables, fruits and tubers are higher than that of food grains. This is also useful result which justified the importance of commercialising vegetables while at the same time diversifying into tubers and fruits. For instance, fruits accounted over 80 per cent sales profit while tubers accounted over 75 per cent of sales profit for the 3 years period. The higher sales in fruits and tubers could be a reflection of costs that each farmer invests in enterprises. Most farmers were investing little or no money in production of fruits and tubers and this had a bearing on overall sales and profits realised.

The food grains indicated nearly 45 per cent of sales profit for the 3 years period which was very low. The food grain was the major source of household food and relatively less quantity was devoted for sales. On food grain production, use of expensive inputs like fertilizers and seeds increased the overall costs of production and subsequently affected the total profits. Food grains (maize) production was dependent on rain-fed agriculture and with recurrent dry spells over the years its yield has been dwindling. This could further explain the reason why most of the respondents sold less quantity of food grains.

4.4.4 Perception of informal sector by Development Officers

Table 27: Perception about informal sector by Development Officers (N=30)

SI No.	Statements about informal sector	Score	Rank
1	Success of rural small scale businesses largely depend on good farming year	**102**	**I**
2	The informal sector activities is one substantial force in the rural set up and should be strengthened	**98**	**II**
3	Poor infrastructure of the informal sector affects growth of small scale business	**61**	**III**
4	Most of the business is done by primary producers in the informal sector and hence they should be supported by the extension mechanism	**49**	**IV**
5	Small profit margin in small scale business limit farmers' participation	**48**	**V**
6	Poor grading and packaging of products offered in the informal sector limits customer attraction	**46**	**VI**
7	Unhygienic conditions of products offered in the informal sector make goods less appealing	**46**	**VII**
8	When rural marketing in Malawi is more institutionalised, the informal sector will die away.	**45**	**VIII**
9	Poor access to financial services limits expansion of informal sector activities	**43**	**IX**
10	Limited knowledge and skills to run businesses affect informal sector	**42**	**X**
11	High marketing costs limits further growth of informal sector activities	**40**	**XI**

Table 27 provides results of Development Officers perception towards the informal sector. It reveals that good farm season is very important for farmers to actively engage into agro-based enterprises. Farmers will have surplus produce for sale when they realise better yields.

Poor infrastructure was mentioned as one of the factors which affects the success and growth of the informal sector activities. As earlier explained, infrastructural facilities such as good markets, road network, storage facilities, etc facilitate the efficiency of the informal sector. In addition, poor grading and packaging limits further customer attraction for products and this has negative bearing on returns. This leads to small profit margins and tend to limit farmers' active participation informal sector activities.

Limited access to financial services and high marketing costs were also important challenges which have depressing effect on further growth of the informal sector. Farmers are unable to increase their capital base due to limit credit facilities. Additionally, due to transportation challenges which lead to high marketing costs have rendered informal sector fail to achieve much benefit among farmers.

Despite the afore-mentioned challenges, farmers greatly value the importance of informal sector as an income source and avenue for self employment. Adequate support towards the sector has the potential of transforming the rural financial base and improve source of employment.

4.4.5 Strengths, weaknesses, opportunities and constraints analysis as perceived by development officers

4.4.5.1 Strengths

4.4.5.1.1 Farmers' commitment to take farming as business. As revealed in occupation of respondents where almost 70 per cent of farmers were taking farming as business.

4.4.5.1.2 Most of the respondents had basic education which is fundamental for operating business transactions

4.4.5.1.3 Exposure to extension was good and enabled farmers access to information and other support services

4.4.5.1.4 Information source utilisation rated high and this was desirable. Information seeking has direct bearing on individuals acquiring more knowledge that is useful for running of enterprises

4.4.5.2 Weaknesses

4.4.5.2.1 Transportation of commodities was not very developed since the majority of respondents resorted to selling their produce only in the nearby markets.

4.4.5.2.2 Limited access of credit facilities in rural areas, the study revealed that most of credit institutions were located in the main towns and farmers were constrained with access.

4.4.5.3 Opportunities

4.4.5.3.1 Availability of extension services from government and other service providers such NGOs

4.4.5.3.2 Availability of government policies on promotion of informal sector activities

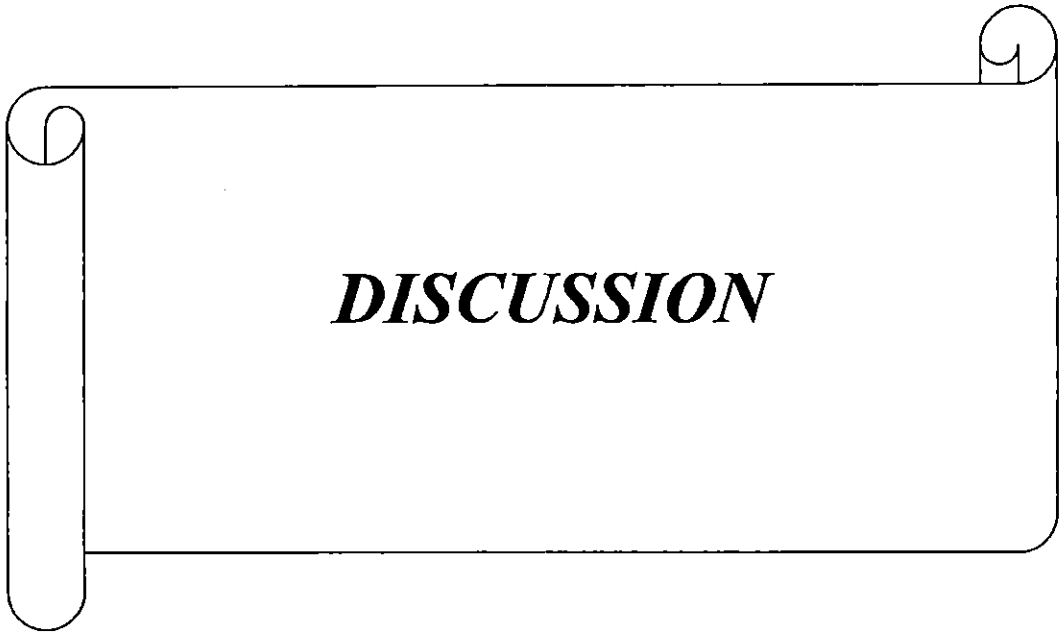
4.4.5.3.3 Prevailing market demand for produce. There were adequate source markets because the produce forms the day-to-day food nutritional needs for most of households.

4.4.5.4 Constraints

4.4.5.4.1 Low economic status of respondents. For instance, nearly 50 per cent of respondents within average monthly income of MK10,000 to MK30,000

4.4.5.4.2 Scattered farmers and small volumes of produce across the study areas. Small volumes were noted from variations in the computed CCI where food grains were as low as 33.95 per cent in 2010-2011 growing season

4.4.5.4.3 Seasonal nature of produce. The crops were all grown during rainy season which limited crop distribution in a year.



DISCUSSION

CHAPTER V

DISCUSSION

This chapter seeks to provide discussion based on the each result obtained from the study. The discussion has been presented based on the thematic areas of the objectives and very much aligned to each other. It is outlined as follows;

5.1 Analysing the internal factors and external factors influencing the sector.
5.2 Examining the supply chain dynamics in the major groups of agricultural commodities dealt by the informal sector.
5.3 The spatial distribution of the informal sector and their contribution to the local markets.
5.4 Strengths, weaknesses, opportunities and constraints analysis of informal sector
5.5 Scaling up the role of informal sector in promoting food security and poverty reduction in rural Malawi.
5.6 Policy implications and recommendations for scaling up the informal sector in promoting food security and poverty reduction in rural Malawi.

5.1 Analysing the internal factors and external factors influencing the sector.

Eight variables were found to be significant at 10 per cent and this reflected how each influenced or affected the informal sector interventions for the respondents. There were four internal factors namely; education status, business orientation, innovativeness and monthly income. Three variables were external *viz.*; credit facilities, commodity transportation and extension services. There was one variable namely information source use, which is part external and part internal. The choice of the information source is an internal aspect, as it is solely the individual farmer's choice. The information source availability in a particular area is mostly an external aspect.

Policy makers, administrators and development mechanisms of the country might concentrate more on the external factors like transport facilities, credit facilities, extension services and information source availability to enhance the informal sector activities. The detailed description has been discussed as follows;

5.1.1 Socio-economic characteristics of respondents

The socio-economic characteristic of the respondents was useful for the study because they can positively or negatively affect farmers' decisions of pursuing successful informal sector interventions. Age, gender, education, occupation and income of the respondents provide an in-depth analysis of respondents.

Age of respondents showed that the majority were in the middle and adult age groups representing nearly 95 per cent. This revealed that the aged group was most active in the informal sector activities. They are usually regarded as household heads and major decision makers. However, more engagement of the youth is essential since they constitute large population and the majority are unemployed. Malawi's youth population accounts 52 per cent with ages below 18 years (NSO, 2005).

It was observed that the majority of gender group were females represented by 61.7 per cent of total respondents. ECI & NSO, (2000) in the GEMINI study in Malawi revealed that 34 per cent of MSEs were owned by women, 35 per cent by men and 31 per cent by married couples. The findings nearly show double rise in women participation for the last decade. This is not surprising as it only tries to concur and explain the recent women empowerment programmes on active engagement in informal sector activities. Female participation is receiving increased focus in development policies as stipulated in the Malawi Poverty Reduction Strategy Paper. It was singled out as one of the potential elements for achieving pro-poor growth in which women are to play a significant role (GoM, 2002).

GoM, (2005) further indicated that at the grassroots, the ongoing decentralization process involving devolution of powers enhances democratic participation of women and vulnerable groups, in decision-making structures. Significant and positive results are being realised though faced with constrains by traditional attitudes to gender roles,

inadequate capacity to promote participation of women and the vulnerable groups in decision making forum. Provision of training to strengthen relevant capacity for the district assemblies as well as continued sensitisation to communities in order to achieve gender equality goals has been helpful.

Education of the respondents was found to be significant at 8 per cent. This revealed that education was directly and positively influencing farmers in operation and management of informal sector interventions. It was noted that 50 per cent of the respondents had gone up to primary education. The national literacy rate is at 64 per cent with the highest level of education completed by majority of households being primary (54.8%) while Ntcheu and Balaka districts registered 65.1 per cent and 60.4 per cent respectively (NSO, 2005). The finding of the study was slightly lower but overall inference indicated high rate of illiteracy in the study area. Other factors might be contributing to such results at district level.

On another hand, the success of informal sector would bring in greater impact if literacy rate was also high. Education is known to be a major determinant of living standards. High literacy rate has a direct relationship with level of understanding and adoption of technologies for increased production. When this is achieved, farmers would be able to invest more in informal sector and subsequently increase incomes. Hence, there is need to promote informal[4] education and agri-business skills among the farmers engaged in agro-based enterprises. Since the majority were middle and adult aged, there is need to promote the adult literacy classes.

Occupation of the respondents indicated that two-third of the respondents were involved in farming and agri-business enterprises. Nearly one-third of them were engaged in agri-business and the rest were just farmers. The finding is in line with the report which indicated that the majority of people in the rural areas depend largely on agriculture (85%) of population and accounting over 63 of total income (MoAFS, 2006). More importantly, shortage of productive employment opportunities often compels people to enter into agro-based informal sector activities. As a result, considerable emphasis is placed on the contribution that the small, medium and micro enterprise (SMME) sector can make towards relieving the high levels of unemployment.

[4] Informal education denotes life long process by which every person acquires and accumulates knowledge, skills and attitudes through insights from daily experiences and exposure to the environment.

Average monthly income of the respondents was found to be significant at 7 per cent. Three levels of commercialisation were analysed in order to understand income levels as it related to commercialisation.

Under no commercialisation, almost 49 per cent had average monthly income of less than MK10,000 and only 17 per cent had average monthly income of MK30,000-MK50,000. As such, the majority are having less income levels to support income generating activities and they are forced not to participate in commercialisation. Farmers would require external sources of support in order to enable them increase their level of production which characterises engagement into commercialisation activities. This is where government and other development agencies can play crucial role of uplifting farmers into medium level of commercialisation.

On medium level of commercialisation, 43 per cent had average monthly income more than MK50,000. Thirty-one percent of them had average monthly income of less than MK10,000 This shows that nearly 69 per cent of respondents had relatively sufficient income that can meet and finance the initial investment costs in commercialisation activities. They may require external support in order for internalising growth and subsequent movement into commercialised enterprises.

On commercialisation, 58 per cent had average monthly income between MK30,000- MK50,000 and only 20 per cent had income level of less than MK10,000. This implies that the majority are already into commercialisation and needed to maintain their established enterprises. This group is useful as it directly contributes towards overall agricultural growth, self employment and income distribution at national level.

This showed that the majority of respondents had average monthly income of MK10,000- MK30,000 (55%). Nearly 29 per cent had income of less than MK10,000 and only 6 per cent had average monthly income of more than MK50,000. Overall the average monthly income levels for the majority was less and not sufficient to support commercialisation of agro-based enterprises. However, income level has a positive and significant bearing on informal sector activities in terms of financing and operating the activities.

Sookram *et al.*, 2009 reported similar findings that income is key determinant in participation in informal sector. The lower the income earned in the formal sector, the higher is the incentive to be engaged in the informal sector activities. In the same way, self-employed persons tend to be major participants and devote their full time responsibility in the informal sector as source of livelihood. It is therefore contingent that income is a major factor of informal sector involvement as well as for cushioning in case if businesses fail.

5.1.2 Access to credit facilities

Access to credit facilities of the respondents was significant at 8.6 per cent. The results indicates that almost 60 per cent of respondents had medium access to credit facilities whereas nearly 20 per cent of respondents were either having low or higher access to credit facilities respectively. It is therefore clear that access to credit facilities was significantly influencing informal sector activities in terms of capital and financing backing.

Despite the crucial role of credit facilities, farmers reported limited access to lending institutions/ agencies, high interest rates, loan conditions and tedious loan procedures. Consequently, the informal sector's productive base and contributions remain small due to inaccessibility to credit. Ademu, 2006 observed that the lack of savings and capital makes it difficult for many poor people to become self-employed and to undertake productive employment generating activities. NSO, (2005) confirmed that credit access to smallholder remains extremely low, saying that only 12 per cent of households accessed any type of credit and only 6 per cent out of them received credit for agricultural activities.

Limited access to credit facilities only suggests the prevailing market credit failures and poor participation in rural microfinance. The overall scenario has rendered more difficulty for the disadvantaged to become self-employed in order to uplift their standard of living.

5.1.3 Commodity transportation of the respondents

Commodity transportation was fundamentally significant at 10 per cent. This clearly showed that transportation of commodities was very essential in movement of products transacted in the informal sector. It was observed that 60.83 per cent of respondents had medium access to transportation facilities. Respondents indicated that challenge of high costs of transportation increased marketing costs hence affecting net returns. This prompted farmers to rely on selling their produce to nearby local markets which was not profitable.

Similar findings were reported by Acharya and Agarwal (2010) that transport helps in the widening of markers by bridging the gap between the producers and consumers located in different areas. They pointed out that without transport, the markets would have mainly been local. They further argued that transportation of produce creates employment, facilitates specialised farming and helps to transform economy from subsistence to commercial, which characterises informal sector promotion.

5.1.4 Farmer business orientation

Farmer business orientation was significant at 9.7 per cent. The finding is indicated the relevance of business orientation towards the success of informal sector activities. It was noted that almost 83 per cent of respondents had medium business orientation while 17 per cent of them had low business orientation. High business orientation is also directly linked to high innovativeness among the respondents.

Farmer business orientation should aim to recognise untapped opportunities in farming. There is need to critically identify enterprises that are area specific, with low capital investment but higher returns. Empowerment of farmers to pilot such interventions will influence successful agro-based enterprises.

5.1.5. Innovativeness

Innovativeness was found to be significant at 5.6 per cent. It was observed that 47.50 per cent of respondents try immediately new innovative practices in order to start new business venture while 46.67 per cent would venture into new businesses after seeing success/ benefit of other businesses. The finding reflects opportunity for implementers to focus on the innovative farmers for interventions.

Research and development initiatives must come up with technologies that should be relayed to farmers. Due to modernisation, conditions are constantly changing and farmers have to be alert. The efforts to bring new technologies must be accompanied with simple and well articulated practices that can be adopted easily by farmers. Technologies should promise immediate benefits as entry points to build farmers' confidence like high yielding crops. Similarly, the marketability of products should be desirable in order to increase returns for players in informal sector.

Reij and Waters-Bayer, (2001) observed that the level of innovativeness tend to be lower among the older and younger farmers. It was hypothesised that the peak of innovativeness is found among farmers in the age bracket of 35-50 years. Experience will enable farmers to have better knowledge which in turn may be the basis for innovativeness.

5.1.6 Information source utilisation

Information source utilisation was significant at 6.1 per cent. The majority of respondents had medium to high information source utilisation (83%). Information seeking has direct bearing on individuals acquiring more knowledge. Similarly, adequate knowledge enhances higher enterprise efficiency and productivity. When diverse sources of information are available for the farmers more will be the probability of their betterment of enterprises. Therefore as many number of parallel channels of information dissemination as possible should be used to promote farmer awareness.

Secord and Backman (1961) indicated that by seeking information from different sources and getting knowledge about the subject, the outlook of the individual gets changed and this reflected in his/her perception towards the subject.

5.1.7 Exposure to extension sources

Exposure to extension sources was significant at 1.8 per cent. Extension sources motivate the farmers, help clarify their doubts, give them proper direction and support. The results indicated that 71 per cent of respondents had medium exposure to extension sources. It points to an urgent need to scale up extension activities aimed towards informal sector development.

The exposure to extension sources seems to be desirable with emphasise and exploration on the message content in terms of promotion of farming as a business. This is useful aspect for improving farmer orientation towards farming as business. The ongoing tradition of subsistence farming needs to be changed towards commercialised farming. There must be deliberate efforts of promoting farming as business in order to increase household incomes. Informal learning and sharing of information at community level must be promoted especially in cases where out-reach by extension agents is limited as this proved to be useful and commonly practised.

5.2 Examining the supply chain dynamics in the major groups of agricultural commodities dealt by the informal sector.

It is clear from the nature and set up of the supply chain that farmers are not adequately benefiting that much. One constraint being that ADMARC offering beneficial price to local farmers, its services have been characterised as irregular and constrained with resources such as finances, personnel, transportation and poor infrastructure. From the figure, ADMARC/ vendors and processors/ restaurants are signifying more control in the chain. These market intermediaries are influential in the chain as they accelerate mobility of goods and services in the markets while at the same time exert some control measures which reduce marketing efficiency.

Studies on produce markets indicate that marketing of most of the horticultural products in most markets seem to be controlled by ordinary street vendors organized into cartel that prevent producers from accessing lucrative markets. Involvement of middlemen and/or vendors is not bad as long as they deploy professional marketing ethics in their transactions with the smallholder farmers on one hand, and the consumer on the other.

The communication system in the chain among the players is very limited leading into poor farmer participation. Farmers do not have adequate knowledge about profitable markets and high illiteracy rate further complicates the situation. Communication is largely top-down based hence contributing few players in the chain. Kimenye and Bombom (2009) indicated that embarking on developing participatory approaches to market access is essential on the entire production–consumption chain. This approach encourages the formation of farmer organisations, which provides opportunity for farmer empowerment and for making them more competitive in the market

Marketing of agro-based commodities such as vegetables, fruits remains inefficient due to poor marketing structures and arrangements. Another challenge is seasonality of most crops like fruits, vegetables, etc which limits production and availability in markets. Value addition in terms of processing is low hence low returns. Lack of value addition prevents the nation from realising the real value of produce and potential to penetrate into export markets.

Analysis of the odds ratios worked out for the significant variables converged on three variables with highest percentage of matching with the comparison category. Consequently, innovativeness, education and commodity transportation were found to have the highest probabilities. In other words, innovative and modern thinking farmers have to be identified and educated comprehensively on marketing of produce. Coupled with this, an overall improvement of transport facilities should see to the improvement of the informal sector.

5.3 The spatial distribution of the informal sector and their contribution to the local markets.

The results indicated that the informal marketing in the four markets in Balaka and Ntcheu are mainly characterized by trading along the roads. Farmers are engaged in producing commodities are take them to the nearest markets along the main roads. Street vending is another common aspect in which many farmers do mobile selling. Chadha *et al.*, (2008) also reported that the domestic market in Malawi can be divided into formal and informal markets. The formal market includes supermarkets, hotels and institutions, while the informal market includes roadside markets, street vendors, cities and town assembly markets. The informal market sector is characterized by poor quality produce, lack of grading, and little or no packaging. It is dominated by vendor marketing groups.

Also Chirwa, (2004) indicated that MSEs that operate in a traditional market place and by the road side or foot path tend to generate more profits that home-based MSEs and were found to be being statistically significant at the 1 per cent and the 5 per cent levels respectively. The reason for the importance of these locations is that they are places of high demand and well connected to transportation facilities.

Only Mangochi turn-off market had infrastructure which were constructed with government support while the rest were using locally constructed structures. Proper market provides for other amenities such electricity, water, storage facilities, security and vending rooms which facilitates conducive environment for growth of informal sector. Marketing infrastructural support further characterizes gradual movement towards improving informal sector efficiency. Use of locally constructed shades and other small buildings support business transactions along these markets. Niklaus, (2005) reported similar views that poor-quality or non-existent infrastructure (roads, transport, access to public service utilities such as electricity, water, etc.) further raises business costs and hampers market efficiency by discouraging mobility, lowering productivity and further limiting access to markets

Additionally, the markets set aside one day of the week as their main market days. It was noted that during these days farmers were able to sell substantial products because many buyers get attracted during such days. The CTA, (2008) reported of similar arrangement practiced in Zambia in order to allow sufficient time for farming and conduct business on other days. This enables customers also to make prior plans for procuring a range of good quality produce in those days. Acharya and Agarwal, (2010) expressed similar arrangement of innovative marketing which are farmer-centered. The initiative enables farmers to directly sell their produce to customers hence increasing farmer share in price paid by the customers. The system limits the involvement of many intermediaries that are exploit small scale farmers. Common example of such markets in India include; Apni Mandi/ Kisan, Uzhavar Sandies of Tamil Nadu State and Rythu Bazars of Andhra Pradesh State.

The markets have become entry point of overall rural growth in the surrounding areas. This was evident from many other infrastructures being constructed and services being offered. It was also noted that the markets are further facilitating links for exchange between the rural and urban areas. White (2003) reported that rural markets operate seasonally or on only one or two days of the week. In others, they operate more or less continuously, with large-scale traders sometimes employing agents in several such markets to buy on their behalf. They further help with the following;

1. Provide a location at which farmers can meet with traders
2. Increase retail competition by providing a convenient place where farmers can meet with consumers
3. Improve hygiene, if existing marketing activities are carried out in an insanitary manner
4. Reduce post-harvest losses by providing protection for produce from direct sunlight, rain, etc.
5. Make marketing a more pleasurable activity
6. Provide a focal point for rural activities.

5.4 Strengths, weaknesses, opportunities and constraints analysis of informal sector

5.4.1 Strengths

The farmers' commitment by taking farming as business is fundamental milestone towards creating self employment and increasing income source. The level of education further strengthened the capacity to operate successful business transactions. In addition, the availability of extension services plays an enabling role for farmers' access to information and other support services

5.4.2 Weaknesses

The success of the informal sector was derailed by factors such as transportation of commodities and limited access of credit facilities. These are useful factors that would enable increased efficiency of marketing and source of capital base respectively.

5.4.3 Opportunities

The positive steps taken by the government to put policies for escalating informal sector is helpful. This is further reinforced availability of extension services from government and other service providers such NGOs. Also the prevailing market demand for produce is another area which encourages farmer participation in the informal sector.

5.4.4 Constraints

The major constraints mentioned included low economic status of respondents, scattered farmers and small volumes of produce across the study areas. The seasonality nature of the produce was also limiting and this further crop distribution in a particular year.

5.5 Scaling up the role of informal sector in promoting food security and poverty reduction in rural Malawi.

The study used household commercialisation index (HCI) was computed in order to determine the policy suggestions and implications. This was achieved by measuring the levels of commercialisation which were prevalent among the respondents. The results revealed that three levels existed; subsistence (38%), semi-commercial (33%) and commercial (29%) farmers. This delineation suggests that efforts to support improvements of commercialisation have to be differentiated in order to meet the specific needs of each level. A suggested model has been developed to provide some insights of how the three levels can be managed so that a well-articulated transitional growth from subsistence to commercialisation may take place.

The variables that were significantly contributing to commercialisation supported drawing of the strategy in the model. Experience indicates that farmers that invest in farming as a business have high likelihood of achieving smallholder commercialisation which directly influences the success of enhancing the roles of informal sector activities. The suggested model provides detailed transitional movements as indicated in **figure 7.**

The results of the analysis therefore suggest that policy initiatives to promote small business development and survival should be a dual approach consisting of the following two broad categories:

1. Targeting small businesses with growth potential on an individual basis with traditional small business programmes offering financial, training and counselling support.
2. Designing collective support programmes for survivalist businesses with limited growth potential.

These programmes may include improving the business environment; for example, by providing shelters and access to basic infrastructure. A workable policy should also take into account the lack of resources to pay for the services and facilities provided to these businesses. Increasing public participation and transparency in the policy making and legislative process by instituting transparent, inclusive decision-making procedures

and providing regular opportunities for the public to comment on existing and proposed laws and regulations (Ligthelm, 2008).

Computation of crop commercialisation index (CCI) was another important measure to determine crops which easily depicted commercialisation. The results indicated that vegetables had high portion of production. This was common to all the districts. Ranked second, third and forth were tubers, fruit and food grains respectively. The tuber crop represents second crop which had higher potential of commercialisation with average CCI of 61 across the 3 growing seasons. Food grains ranked lowest likely due to being subjective towards meeting household self-sufficiency. Farmers are forced to satisfy the household requirement because it is staple food crop.

Technical support towards production of each crop is necessary to farmers in order to enhance commercialisation. Support in terms of technical know-how on how best the farmers can be empowered for increasing their production. The farmers may further be supported with skills of market linkages, processing and including post-harvest handling technologies. These crops are highly seasonal and very perishable.

An analysis of enterprise profit as a percent of annual crop sales was another important area worth considering in terms of crop diversification. The results indicated that the enterprise profit as percent of sales from vegetables, fruits and tubers were higher than that of food grains. For example, in 2010-2011 growing season, percent of tubers (82 %), vegetables (79 %), fruits (93 %) and food grain registered only 48 per cent. The higher sales in fruits and tubers could be a reflection of lower costs that each farmer invests in these enterprises. Most farmers are investing little or no money in production of fruits and tubers and this has a bearing on overall sales and profits realised. Fruit crops such as mangoes, peaches, guavas etc were common and they are perennial crops.

This indicates the importance of engaging farmers in crop diversification. In the course of diversification, farmers will be able to realise which crops can be promoted further for commercialisation. Farmers increase the sources of income hence high chances of improving their living standards. The practice can achieve remarkable results if farmers are fully supported with conducive production environment in terms of credit

facilities, improved farm inputs, good markets, road networks and farmer friendly policies.

The supply chains lack coordinating and bridging mechanisms such as cooperatives, associations and self help groups. Local institutional structures are required to bring farmers together for the betterment of fair trade that will be long lasting and encouraging farmers' interest to venture into farming. Collective action and proper linkages to lucrative markets for small scale farmer remains important. Most of the farmers are engaged in individual selling of produce which would have been efficiently been handled by the institutionalised groups.

The current scenario is only accelerating the challenges of connecting farmers to dynamic and lucrative markets. There is need to develop chains that are farmer-owned and strengthened by farmer organisations. Niklaus, (2005) argued that the strengthening of self-help organisations at grassroots and informal entrepreneurs' associations both supports increasing public participation in the shaping of policy and lawmaking processes, which is the first step towards a formalisation of the informal sector, and provides an impetus for pursuing own interests and rights within the informal sector.

Farmers require more capacity building in interpretation of marketing information system. The government and non-governmental organisation (NGOs) should take the leading role in supporting with market oriented trainings for players especially farmers. They should be empowered so that they are able to monitor the entire marketing system. Small scale farmers are motivated to participate in informal sector when they have adequate information and knowledge about the numerous benefits such as self-employment, source of income and being source of capital for venturing into profitable agricultural production for improving food security.

Information flow should be revised particularly targeting more local markets and announcement of standardised system of prices. Usually buyers of produce benefit more from the information as opposed to the farmers. ADMARC being a government institution needs to revisit its mandate and increase its financial base in order to improve its efficiency. At the moment, it is suffering seriously from its competitors and lacks proper storage and warehousing facilities.

5.6 Policy implications and recommendations for scaling up the informal sector in promoting food security and poverty reduction in rural Malawi.

The following implications and recommendations may be considered for enhancing the roles of the informal sector;

5.6.1 Creating more awareness programmes to encourage the youth to participate in informal sector. This will reduce problems of high unemployment which is very high among the youths

5.6.2 There is need to improve education status of informal sector participants since the major had gone up to primary education which was very basic.

5.6.3 There is need to promote more income generating activities in order to improve the income levels. The majority of the respondents had low average monthly income which hindered the success of the enterprises.

5.6.4 There is need to consider resorting to pricing of produce based on the actual weight of crops such as leafy vegetables, fruits and Irish potatoes. The current price estimation practice may perhaps have implications of either selling at a loss or more profit.

5.6.5 Establish more lending institutions/ agencies with reasonable interest rates in the rural areas to increase access to credit facilities. Related to this, the spirit of saving should be promoted among the farmers in order to increase their enterprise capital base.

5.6.6 There is need to improve the conditions of rural transport system particularly roads. Most of the respondents were selling produce to the nearest markets due high costs of transportation.

5.6.7 The majority of respondents had high business orientation as such policy makers must take advantage of engaging the farmers in exploitation of more business opportunities. Additionally, the high innovativeness of respondents revealed that they were willing to take up new technologies.

5.6.8 There is need to consider maintaining the efficiency of information source utilisation to promote more sharing of information.

5.6.9 Extension services should consider engaging more farmers in open business fora so that more farmers are encouraged and empowered to take farming as a business

5.6.10 Marketing infrastructure needs to be improved so that other amenities such as water, electricity, toilets, security and shades are provided.

5.6.11 There should be more participation of farmers in the supply chain to enhance farmers' voice in marketing of produce. Farmer organisations such as self help groups, cooperatives and associations would play influential role.

5.6.12 Promotion of diversification in enterprises is useful for increasing income base and reduces risks of crop failure.

5.6.13 There is need for more capacity building for farmers to understand the marketing system and agro-based enterprises

SUMMARY AND CONCLUSION

CHAPTER VI

SUMMARY AND CONCLUSION

In this study, the informal sector was conceptualised as agro-business enterprises that are owned by individuals or households that are not constituted as separate legal entities independently of their owners. Some of the key features included lack complete sets of accounts, all or at least some of the goods or services produced are meant for sale or barter, not registered under specific forms of national legislation and play crucial role in self employment.

The informal sector plays an important role in economies of developing countries and holds significant solutions to addressing food insecurity and poverty reduction. It has direct bearing on increasing agricultural production through promotion of more investment in agro-based enterprises which is fundamental to rural livelihood. Surplus production at household level has been the major sources of engagement into rural economic activities hence supporting self employment and source income. This has further addressed challenges of rampant unemployment and self-sufficiency at households.

Just as any other development sectors, informal sector in Malawi continue to face many problems ranging from its productivity to managerial aspects. In terms of its productivity, the sector is constrained with inadequate infrastructures (roads, markets, water, electricity, etc), access to credit facilities, lack of processing and storage facilities and marketing linkages. On managerial aspects, prevailing situation indicated that there is limited farmer capacity building, limited information and non farmer conducive policies regarding their growth in the sector.

The study seeks to suggest that it is important to facilities improvements in the systems prevailing in the supply chain, supporting with resources such as credit facilities, market infrastructures and production-enhancing technologies. Another important aspect is to consider promoting engagement of youths in order to curb the increasing problems of unemployment among the youths. As it was noted earlier that the majority of population in Malawi constitute the youths (52%). At the same, continue motivating

farmers that are already operating the agro-based businesses as they contribute towards overall agricultural growth in the districts.

The present study was conducted to comprehensively understand the nature and extent of scaling up informal sector activities in rural Malawi. Specifically, the study objectives were;

1. To analyse the internal factors and external factors influencing the sector.
2. To examine the supply chain dynamics in the major groups of agricultural commodities dealt by the informal sector.
3. To study the spatial distribution of the informal sector and their contribution to the local markets.
4. To determine policy suggestions for scaling up the role of informal sector in promoting food security and poverty reduction in rural Malawi.

The study was conducted in Balaka and Ntcheu districts targeting 2 markets from each district. Hence four local markets were purposively sampled due to nature of agro-based business transacted. Thirty farmers involved in the informal sector were randomly selected from each market as respondents hence making a total sample size of 120 farmers.

Selection of variables was largely based on getting parameters that would assist in analysing the internal and external factors influencing the informal sector, supply chain dynamics, spatial distribution of markets and their relevance to informal sector. Goods transacted in the markets formed another essential component of understanding the crops grown and marketing system. The experts knowledgeable in informal sector were consulted to assist to final rate the most appropriate variables to suit the study.

The study used household commercialisation index (HCI), crop commercialisation index (CCI) and enterprise profit as a percent of annual crop sales were computed in order to determine the policy suggestions and implications. HCI assisted measure the levels of commercialisation which were prevalent among the respondents. Crop commercialisation index (CCI) was computed to measure and determine crops which easily depicted commercialisation process. Lastly, an analysis of enterprise profit as a

percent of annual crop sales was calculated in order to determine crop diversification among the respondents.

The data was collected by conducting personal interviews with farmers engaged in informal sector activities using a well-structured and per-tested interview schedule developed for the study.

Statistical Package for Social Scientists (SPSS version 16) was used to tabulate, analyse and interpret the data. The statistical tests used for analysis and interpretation of data included; Percentage analysis, Cross tabulation, Regression Multinomial Logistics, Household Commercialisation Index (HCI), Crop Commercialisation Index (CCI) and Profit as percent of annual crop sales.

The salient findings of the study were;

1. The majority of respondents fall under age group of 20-39 years representing 64.1 per cent
2. The informal sector activities were largely carried out by females accounting 61.7 per cent of total respondents.
3. Eight variables were found to be significant at 10 per cent reflected how each influenced or affected the informal sector interventions for the respondents. There were four internal factors namely; education status, business orientation, innovativeness and monthly income. Three variables were external *viz.*; credit facilities, commodity transportation and extension services. There was one variable namely information source use, which is part external and part internal.
4. Fifty percent of respondents had education up to the eighth standard. Only 16.7 per cent had completed their secondary education and the rest (33.2%) were below primary education.
5. Almost two-third of the respondents were involved in farming and agri-business enterprises.
6. The majority of respondents had average monthly income between MK10,000-MK30,000 representing almost 55 per cent. Only 6 per cent had average monthly income of more than MK50,000.

7. Almost 60 per cent of respondents had medium access to credit facilities whereas 20 per cent were having low access and another 20 per cent was having high access to credit facilities.
8. Nearly 60.83 per cent of respondents had medium access to transportation facilities. The common means of transporting commodities was by carrying on their heads and bicycles. Very few farmers relied on using vehicles due to high costs. This further prompted farmers to rely on selling their produce to nearby local markets.
9. Almost 83 per cent of respondents had medium business orientation while 17 per cent of them had low business orientation.
10. 47.50 per cent of respondents try immediately new innovative practices in order to start new businesses while 46.67 per cent would venture into new businesses after seeing success/ benefit of other businesses. Only 2.50 per cent of respondents do not try new innovations whereas 3.33 per cent of them wait for service providers to demonstrate new innovations.
11. The majority of respondents had medium to high information source utilisation (83%). Only 17 per cent of them had low access. Mass media and interpersonal communication channels were most prevalent.
12. About 71 per cent of respondents had medium exposure to extension services. Only 8 per cent had high exposure to extension services and 21 per cent had low exposure
13. The major commodities transacted in the two districts are mainly vegetables (tomatoes, onions, cabbages, carrots, rape, pumpkin leaves, bean leaves, chinese, etc.), fruits (mangoes, avocado peas, bananas, peaches, guavas, oranges, tangerines, etc), food grains especially maize and tubers (cassava, sweet potatoes and Irish potatoes).
14. The chain indicated three types of flows which described the nature and extent of the activities taking place; the first is the flow of products from the producer farmers to the consumers. This is the most common mode of selling produce as transacted along the four markets; Ulongwe and Mangochi Turn-off in Balaka and Kampepuza and Tsangano Turn-off in Ntcheu. The second is the information flow in the chain which portrayed how information moves among the different players regarding movement and procurement of produce. Lastly, the extent of influence among the different actors is depicted.

15. The markets operate throughout the week days and special market days are set in almost all the markets
16. It is clear that all the markets are situated along the main roads in order to target as many buyers as possible
17. Only Mangochi turn-off has infrastructure which were constructed by government and the rest are using locally constructed structures
18. Commercialisation was used to measure, analyse and understand the determinants of commercialization of smallholder farmers by computing HCI and CCI. It helped to determine to what extent a given farm household is commercialized in its overall production, marketing and consumption decisions. Hence determining efforts to up scale the informal sector activities.
19. The household commercialisation index was computed. This led to formulating the policy implications and arriving at recommendations. The levels of commercialisation among respondents were measured, which showed three levels; subsistence (38%), semi-commercial (33%) and commercial (29%) farmers. This delineation suggests that efforts to support improvements of commercialisation have to be differentiated in order to meet the specific needs at each level.
20. Computation of crop commercialisation index (CCI) was another important measure to determine crops amenable for commercialisation. The results indicated that vegetables were the best option for commercialisation. Ranked second, third and forth were tubers, fruit and food grains respectively.
21. An analysis of enterprise annual sales was done in order to understand about crop diversification potential. The results indicated that the percent of sales from vegetables, fruits and tubers are higher than food grains. For example, in 2010-2011 growing season, percent of tubers (82%), vegetables (79%) and for fruits (93%) of total production for each enterprise.
22. A model has been suggested on how the three levels of commercialisation can be managed so that a well-articulated transitional growth from subsistence to commercialisation may take place.
    a. For non-commercial farmers, extension services and farm input support is deemed very useful. Subsistence farmers require more production-enhancing information and farm inputs to spearhead the processes.

b. On semi-commercial farmers, innovativeness of farmers is of prime importance. It can be expressed in many forms such as exploitation of markets, production technologies, organisation and creative linkages for disposing and producing new products.

   The variables such as access to credit facilities and market infrastructures support interaction between non-commercialised farmers and medium level of commercialisation. The two stages are equally influenced with the variables.

c. The last phase is commercial farmers which is mainly characterised by specialisation in order to maximise profits. At this stage, farmers will be more focused in production of quality based products with readily available markets whilst contributing to regional/ national production.

In conclusion, informal sector activities were largely carried as a source household income source and self employment. Farming was the major occupation of the farmers. Most of the enterprises were mainly agro-based and operated on small scale.

Policy suggestions/ recommendations

The following suggestions/ recommendations may be considered for enhancing the roles of the informal sector;

1. There is need to create more awareness programmes on encouraging the youth to participate in informal sector. This will reduce problems of high unemployment which is very high among the youths
2. There is need to improve education status of informal sector participants since the major had gone up to primary education which was very basic.
3. There is need to promote more income generating activities in order to improve the income levels. The majority of the respondents had low average monthly income which hindered the success of the enterprises.
4. There is need to consider resorting to pricing of produce based on the actual weight of crops such as leafy vegetables, fruits and Irish potatoes. The current price estimation practice may perhaps have implications of either selling at a loss or more profit.

5. Establish more lending institutions/ agencies with reasonable interest rates in the rural areas to increase access to credit facilities. Related to this, the spirit of saving should be promoted among the farmers in order to increase their enterprise capital base.
6. There is need to improve the conditions of rural transport system particularly roads. Most of the respondents were selling produce to the nearest markets due high costs of transportation.
7. The majority of respondents had high business orientation as such policy makers must take advantage of engaging the farmers in exploitation of more business opportunities. Additionally, the high innovativeness of respondents revealed that they were willing to take up new technologies.
8. There is need to consider maintaining the efficiency of information source utilisation to promote more sharing of information.
9. Extension services should consider engaging more farmers in open business foras so that more farmers are encouraged and empowered to take farming as a business
10. Marketing infrastructure needs to be improved so that other amenities such as water, electricity, toilets, security and shades are provided.
11. There should be more participation of farmers in the supply chain to enhance farmers' voice in marketing of produce. Farmer organisations such as self help groups, cooperatives and associations would play influential role.
12. Promotion of diversification in enterprises is useful for increasing income base and reduces risks of crop failure.
13. There is need for more capacity building for farmers to understand the marketing system and agro-based enterprises
14. Promote scientific production technologies to enhance production and productivity

Suggestions for future line of work

- Youth engagement in the informal sector activities in rural areas
- Study the impacts of credit facilities support to the informal sector

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APPENDICES

APPENDIX I: FARMER INTERVIEWS SCHEDULE

Enhancing the role of informal sector in food security and poverty reduction in Malawi - Policy implications and recommendations.

By Aston Oliver Mulwafu

Interview schedule No.:_____

Date of interview: _____

District: _____

Name of market: _____

1. Age

1) Address of the respondent
   a. Village_____
   b. District_____
2) Gender
   a. Male
   b. Female
3) Age of the respondent?
   a. Less than 20 years
   b. (20-29) years
   c. (30-39) years
   d. (40-49) years
   e. More than 50 years
4) Number of household dependants/ members_____

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    c. (30-39) years
    d. (40-49) years
    e. More than 50 years
4) Number of household dependants/ members_____

2. Education

1) Please mark/ tick the level of highest education attained

Sl. No.	Literacy	Codes
1	Illiterate	1
2	Can read only	2
3	Functionally literate (Can read and write)	3
	Education	
4	Primary education	4
5	Secondary education	5
6	College/ university	6

2) Do you keep record of your business transactions?

   a. Yes

   b. No

3) If yes, verify documentation of transactions? _____

3. Occupation of the respondents

1) Please mark/ tick the occupation of the respondent

SI No.	Category	Codes
1	Government servant	1
2	Private sector	2
3	Farmer	3
4	Business person	4
5	Agricultural labourer	5
6	Jobless	6
7	Others (specify)	7

2) How would you rate your occupation contribution to total household needs?
    a. Very high
    b. High
    c. Reasonable
    d. Low
    e. Very low
3) If contribution is low or very low, how do you supplement the household need?
    a. Small scale business activities
    b. Receives from relatives/ friends/ neighbours
    c. Katapila (Informal and locally arranged money lending and borrowing)
    d. Ganyu (Range of short term rural labour e.g. weeding or ridging etc)
    e. Sell household assets
    f. Reduce household needs e.g. less meals per day

4. Access to credit facilities

Please tick where appropriate on the information according to access to credit facilities

1) Proximity to your nearest lending institution/agency
    a. Very near
    b. Not far
    c. Far away
    d. Don't know where it is
2) Whom do you approach when you need a small loan?
    a. Bank
    b. Government agencies
    c. NGO
    d. Private money lender
    e. Neighbours or friends
    f. None at all

3) How would you rate the interest rate?
    a. Very high
    b. High
    c. Reasonable
    d. Low
    e. Very low
    f. Don't know
4) How would you rate the loan procedures?
    a. Tedious
    b. Difficult
    c. Somewhat difficult
    d. Okay
    e. Easy
    f. Don't know
5) How fast do you get a loan when you apply for it?
    a. Very fast
    b. Fast
    c. In reasonable time
    d. Slow
    e. Never done.
6) Have you received any credit facility? _____
7) How much was the loan? _____
8) What was the agreed period for repayment? _____
9) Which microfinance institutions provide credit facilities in your area?
    a. _____
    b. _____
    c. _____

5. Credit orientation

1) What is your opinion towards credit facilities

SI No.	Statement	Strongly Agree	Agree	Undecided	Disagree	Strongly disagree
1	Only when there are no other alternatives, you would avail credit					
2	You would be ready to avail credit even when there is risk involved					
3	You would invest capital only within your means if at all you start an enterprise					

2) Do you think that borrowing is

a. Very essential
b. Good
c. Tolerable
d. Must be avoided
e. Not interested
f. Sin

6. Season wise production (during the past 3 years)

1) How much area is your farming field? _____

2) How has been your production trend for the past three years? (Please complete table below)

SI No.	Season	Enterprises	Qty produced (Kgs or #)			Investment (MK)	Value of sales (MK)
			Produced	Home consumption	Quantity sold		
1	08-09	Food grains					
		Tubers					
		Vegetables					
		Fruits					
		Livestock					
2	09-10	Food grains					
		Tubers					
		Vegetables					
		Fruits					
		Livestock					
3	10-11	Food grains					
		Tubers					
		Vegetables					
		Fruits					
		Livestock					

7. Monthly income

1) How much is your monthly average income? _____

2) Monthly livelihood source please complete the table below.

SI No.	Months	Livelihood source	Reasons
1	January		
2	February		
3	March		
4	April		
5	May		
6	June		
7	July		
8	August		
9	September		
10	October		
11	November		
12	December		

3) If you operate a small business, what is the major reason for doing this?

   a. Source of additional income
   b. Risk spreading
   c. Additional income and risk spreading
   d. See an opportunity
   e. Others (specify)

4) Mention the main crops/ products that you feel are more profitable on market?

   a. _____
   b. _____

8. Farmers business orientation

1) What inspires/ motivates you to run a business? Complete table below.

SI No.	Statements	Agree (1)	Disagree (2)
1	I will start a new venture only if someone prompts me		
2	I am ready to join a training course which will equip me to start self employment		
3	I will take an initiative to form a self help group to acquire loan from government/ institutions to start a business		
4	I will go and collect information about financial assistance to start an enterprise		
5	Even though loan will be provided with all facilities, I am not ready to take up an enterprise		
6	It is only because of my own efforts that i have acquired sufficient knowledge to start an enterprise		

2) What influenced you to start business?
   a. Family background had business
   b. Own initiative
   c. Family background and own initiative
   d. Saw others doing it
   e. Others (specify)_____

3) Enlist the support that you would like to have to improve your business activities?
   a. Better access to credit facilities
   b. Better transport facilities
   c. Training support
   d. Support prices
   e. Extension support

f. Better government policies
g. Better market infrastructure
h. Market information
i. Market education
j. Protection from middlemen
k. Any others_____

9. Commodity transportation

Please provide your opinion about transportation of goods and mobility in your area.

1) How do you usually take your commodities to market?
    a. Personally carry them
    b. Animal driven cart
    c. Small truck
    d. Truck
    e. Use bicycles
    f. Others_____
2) How are the road facilities for you?
    a. Concrete
    b. Tarred road
    c. Good mud road
    d. Rough mud road
    e. Partially through road and partially village path
    f. No proper roads
3) How do you avail a conveyance?
    a. Own
    b. Borrowed
    c. Hired
    d. Public transport
    e. Any other_____

4) How easily do you get transport facilities?
    a. Very easy
    b. Easy
    c. Not easy
    d. Difficult
    e. Very difficult
5) How would you rate the reliability of the conveyance?
    a. Very reliable
    b. Reliable
    c. Not very reliable
    d. Problematic
6) How would you rate the transport expenses?
    a. Very expensive
    b. Expensive
    c. Reasonable
    d. Cheap
    e. Very cheap
7) How far is your business activity from your home? _____
8) How would you describe topography of your area?
    a. Undulating
    b. Hilly
    c. Flat
    d. Any other _____
9) How wide is the road/path you use to get your produce to market? _____
10) Which other markets outside your area, do you sell your crops/ products?
    a. _____
    b. _____

10. Achievement motivation

Does running business derive your desired achievement? Tick the appropriate option.

SI No.	Response	Strongly Agree	Agree	Undecided	Disagree	Strongly disagree
1	One should enjoy work as much as possible					
2	One should work hard at everything he/she undertakes until obtains satisfying results					
3	One should have motivation to achieve certain things in life even if these qualities makes one unpopular					
4	Work should come first even if one cannot get rest					
5	One should succeed in his/her occupation even if one has been neglected of her family					

11. Marketing infrastructure

1) Where do sell your products
    a. Near homes
    b. Traditional markets
    c. Near roads or path
    d. Commercial districts
    e. Mobile markets
    f. Any other_____

2) Do you have any proper enclosures for selling/ keeping goods
    a. Use home premises
    b. Locally constructed premises
    c. Rented premises
    d. Government constructed markets
    e. Any other_____
3) What facilities do you use for keeping/ storing fresh produce?
    a. Keep in baskets
    b. Keep in shop shelves
    c. Keep in well aerated rooms
    d. Any other_____
4) Do you support the importance of marketing infrastructure for your business?
    a. Strongly support
    b. Support
    c. Not sure
    d. Don't support
5) How would you rate the marketing infrastructure expenses?
    a. Very expensive
    b. Expensive
    c. Reasonable
    d. Cheap
    e. Very cheap

12. Employment generation

1) How many persons in your family are involved in this business considering all stages? _____
2) Approximately how much time does your family spend on this business in a day? _____
3) How many persons are hired? _____

4) At what frequency do you need hired labour?
    a. Once per month
    b. Twice per month
    c. Thrice per month
    d. Specify_____

5) How much is the rate of wage per day for hired? _____

13. Use of information sources

1) Which are common sources of information and frequency of use for your business in your community? Complete the table.

Communication channel		**Channel usage**		
		Regularly	**Sometimes**	**Never**
Mass media	Radio			
	Television			
	Posters			
	Exhibitions			
	Others			
Interpersonal channels	Friends/ relatives			
	Contact farmers			
	Extension agents			
	Others			

2) How do you use information sources in your business activities
    a. Identification of market sources
    b. Identification of credit facilities
    c. Linkages to farmer organisations
    d. Farming activities
    e. New farming technologies
    f. Others (specify)_____

3) How do you rate importance of information sources for your business?
    a. Very important
    b. Important
    c. Not very important
    d. Can do without it

14. Innovativeness

1) When would you prefer to start a new venture/ business (Tick one option only)
    a. Try it immediately
    b. After seeing success/ benefits of other businesses
    c. Wait for service providers to come and demonstrate
    d. Don't even try it
2) How would you describe 2 main importance of innovativeness in business?
    a. Win attention of customers
    b. Increased income source
    c. Increased source of capital
    d. Diversification of business products

15. Availability of agro inputs

1) How would you rate availability of agro inputs?
    a. Easily available
    b. Available
    c. Difficult
    d. Unavailable
2) Which agro input dealers provide services in your area?_____
3) How would you rate prices of agro inputs?
    a. Very expensive
    b. Expensive
    c. Reasonable
    d. Cheap
    e. Very cheap

4) How reliable are the agro inputs?
    a. Very reliable
    b. Reliable
    c. Not very reliable
    d. Problematic
5) Do you get all types of farm inputs you require?
    a. Yes
    b. No
    c. Not sure
6) Which companies supply agro inputs in your area?
    a. _____
    b. _____
    c. _____

16. Exposure to extension sources

1) Please complete the table by ticking the appropriate options

SI No.	Exposure to extension sources	Always (1)	Sometimes (2)	Never (3)
1	Community group discussions			
2	Mass media like radio			
3	Friends/ relatives			
4	Extension personnel			
5	Contact with various organisations			
6	Others			

2) How much of information do you need for your business activities?
    a. Great deal
    b. Reasonable
    c. Very less
    d. Don't know

3) How do you perceive extension services in connection to marketing information?
    a. Very efficient
    b. Efficient
    c. Not very efficient
    d. Poor
4) Which service providers/ institutions are major players in promotion of small scale businesses in your area?
    a. _____
    b. _____
    c. _____

17. Business information

1) How often do you get information about business activities?
    a. Always
    b. Sometimes
    c. Never
2) Do you think business information is important to your business?
    a. Yes___
    b. No____
3) What type of business information would you require?
    a. Price changes
    b. Government business policy
    c. Market conditions
    d. Availability of credit facilities
    e. Others _____

APPENDIX II: INTRODUCTORY LETTER TO JUDGES FOR VARIABLE RATING

KERALA AGRICULTURAL UNIVERSITY

COLLEGE OF HORITCULTURE

Department of Agricultural Extension

Dr. Jayasree Krishnankutty, M.

Associate Professor

Vellanikkara

23.09.2011

Dear sir/madam,

Attached with this, is a list of independent variables, compiled by my student, Aston Oliver Mulwafu, as part of his M.Sc (Ag) thesis work. His work, entitled '***Enhancing the role of informal sector in food security and poverty reduction in Malawi - Policy implications and recommendations***' tries to look comprehensively at the informal sector in Malawi. The variables presented here are so chosen as to cover all the aspects of the informal sector related to the objectives of the study.

I would like to request you to spare a little of your valuable time to go through them and rate them according to their relevance, so as to arrive at the final list of variables to be measured by the student. The objectives of the study are given overleaf.

Thank you in advance.

With best regards

Jayasree Krishnankutty.

APPENDIX III: VARIABLE RATING RESULTS

SI	INDEPENDENT VARIABLES	TOTAL SCORE	RANK ORDER
1	**Access to credit facilities**	**86**	**1**
2	**Business orientation**	**86**	**1**
3	**Transportation facilities**	**85**	**2**
4	**Achievement motivation**	**85**	**2**
5	**Monthly income**	**84**	**3**
6	**Product value addition**	**84**	**3**
7	**Marketing infrastructure**	**82**	**4**
8	**Use of information sources**	**82**	**4**
9	**Innovativeness**	**82**	**4**
10	**Business profit**	**81**	**5**
11	**Season wise production (during the past 3 years)**	**80**	**5**
12	**Availability of agro inputs**	**80**	**5**
13	**Exposure to extension sources**	**80**	**5**
14	**Business information**	**79**	**6**
15	**Employment generation**	**79**	**6**
16	**Credit orientation**	**79**	**6**
17	Type of commodities transacted	78	7
18	Location of business	77	8
19	Social mobility	76	9
20	Monthly expenditures	76	9
21	Training support	74	10
22	Membership to small scale business (e.g. associations or cooperatives)	72	11
23	Quantity of business stock (capital)	70	12
24	Type of consumers	67	13
25	Family involvement	65	14
26	Other enterprises by the respondent	56	15
27	Business record keeping	51	16

Source: Survey data, 2012

APPENDIX IV: CROP COMMERCIALISATION INDEX (CCI) FOR EACH CROP PER YEAR

Season	Crops	Production (Kg)	Quantity sold (Kg)	Price/ Kg	Gross value of sales (MK)	Gross value of all production (MK)	CCI
2008-2009	*Food grains*	104883	38805	37.58	39,41,119.61	1458150	37.00
	Tubers	15125	8500	42.89	6,48,773.53	364600	56.20
	Vegetables	13110	10390	63.48	8,32,276.80	659600	**79.25**
	Fruits	5680	2530	35.00	1,98,800.00	88550	44.54
2009-2010	*Food grains*	101090	34675	48.25	48,77,100.53	1672900	34.30
	Tubers	16910	11950	47.82	8,08,566.86	571400	**70.67**
	Vegetables	11020	7600	86.26	9,50,547.50	655550	**68.97**
	Fruits	8000	4810	42.12	3,36,964.66	202600	60.13
2010-2011	*Food grains*	108655	36890	50.35	54,70,274.12	1857240	33.95
	Tubers	13050	7710	70.77	9,23,486.38	545600	59.08
	Vegetables	12560	8717	75.15	9,43,837.10	655050	**69.40**
	Fruits	5150	1710	46.93	2,41,688.60	80250	33.20

Source: Survey data, 2012

APPENDIX V: MULTINOMIAL LOGISTIC REGRESSION STATISTICS

Parameter Estimates									
								95% Confidence Interval for Exp(B)	
Level of commercialisation [a]		B	Std. Error	Wald	df	Sig.	Exp(B)	Lower Bound	Upper Bound
No commercialisation	Intercept	1.56	2.721	0.329	1	0.566			
	Age	0.052	0.234	0.05	1	0.823	1.054	0.666	1.667
	Education	0.146	0.204	0.517	1	0.472	1.158	0.777	1.726
	Occupation	-0.135	0.295	0.211	1	0.646	0.873	0.49	1.556
	Credit facilities	**0.093**	**0.054**	**2.951**	**1**	**0.086**	0.911	0.819	1.013
	Business orientation	**-0.412**	**0.249**	**2.747**	**1**	**0.097**	0.662	0.407	1.078
	Innovativeness	**0.798**	**0.418**	**3.645**	**1**	**0.056**	2.221	0.979	5.036
	Commodity transportation	**0.103**	**0.064**	**2.607**	**1**	**0.100**	1.109	0.978	1.257
	Income	**0.549**	**0.303**	**3.292**	**1**	**0.070**	0.577	0.319	1.045
	Extension	0.173	0.17	1.037	1	0.309	1.189	0.852	1.658
	Information	**-0.224**	**0.12**	**3.522**	**1**	**0.061**	0.799	0.632	1.01
	[Gender=1.00]	*-0.8*	*0.514*	*2.42*	*1*	*0.12*	0.449	0.164	1.231
	[Gender=2.00]	0[b]	.	.	0	.	.	.	.
Medium level of commercialisation	Intercept	3.174	2.669	1.414	1	0.234			
	Age	0.127	0.233	0.297	1	0.586	1.136	0.719	1.795
	Education	**0.376**	**0.214**	**3.074**	**1**	**0.08**	1.456	0.957	2.217
	Occupation	0.24	0.286	0.705	1	0.401	1.271	0.726	2.224
	Credit facilities	-0.007	0.054	0.019	1	0.891	0.993	0.892	1.104
	Business orientation	-0.285	0.24	1.418	1	0.234	0.752	0.47	1.202
	Innovativeness	0.054	0.353	0.023	1	0.879	1.055	0.528	2.108
	Commodity transportation	0.07	0.066	1.13	1	0.288	1.072	0.943	1.22
	Income	-0.226	0.29	0.606	1	0.436	0.798	0.452	1.408
	Extension	**0.278**	**0.173**	**2.579**	**1**	**0.108**	0.757	0.539	1.063
	Information	-0.088	0.122	0.514	1	0.474	0.916	0.721	1.164
	[Gender=1.00]	-0.667	0.519	1.652	1	0.199	0.513	0.186	1.419
	[Gender=2.00]	0[b]	.	.	0	.	.	.	.

a. The reference category is: **Commercialisation.**

b. This parameter is set to zero because it is redundant.

ENHANCING THE ROLE OF INFORMAL SECTOR IN FOOD SECURITY AND POVERTY REDUCTION IN MALAWI - POLICY IMPLICATIONS AND RECOMMENDATIONS

By

ASTON OLIVER MULWAFU

(2010-11-156)

ABSTRACT OF THE THESIS

Submitted in partial fulfillment of the requirement

for the degree of

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ABSTRACT

Malawi is a land-locked country located in the Southern Africa along the Great Rift Valley. The country has a population of approximately 14 million people, of which 51 per cent are women. Agriculture is the mainstay of the economy, providing livelihood to 80 per cent of the population and generating 35 to 45 per cent of GDP.

The growth of economy is fundamental through exploitation of abundant natural resources, particularly enterprise development in agriculture sector. The rural poor, largely women are the players in informal sector, as cultivators, growers, vendors and buyers of agro-based products. The sector is informal in the sense that the units involved are mostly unregistered, not recorded in official statistics, and have little or no access to formal markets for goods and credit facilities.

The informal sector activities have widely been recognised for its important role in promoting food security and poverty reduction. Surplus production at household level has been the major sources for translating to rural economic activities. The sector plays central function in addressing challenges of rampant unemployment and small incomes.

The study was conducted in Balaka district, which is situated in the South and Ntcheu in the Central region of Malawi. In Balaka, Mangochi turn-off and Ulongwe markets were targeted while in Ntcheu, Tsangano turn-off and Kampepuza markets. Hence, four local markets were purposively sampled due to the nature of agro-based businesses carried out. Thirty farmers involved in the informal sector were randomly selected from each of the markets as respondents, making a total sample size of 120 farmers.

The main objectives of the study were analysing the internal and external factors influencing the sector, examining the supply chain dynamics of agricultural commodities and understanding the spatial distribution of the informal sector. In addition, the study determined policy suggestions for possible up-scaling of the role of informal sector in promoting food security and poverty reduction in rural Malawi.

The results revealed that informal sector activities were largely carried out by females accounting 61.7 per cent of total respondents. 50 per cent of respondents had education up to the eighth standard. Almost two-third of the respondents were involved in farming and agri-business activities operating along the main roads. The majority of respondents had average monthly income between MK10,000-MK30,000 (55%) and only 6 per cent had average monthly income of more than MK50,000.

The computed household commercialisation index (HCI) revealed existence of three levels of commercialisation among respondents; subsistence (38%), semi-commercial (33%) and commercial (29%). This delineation suggested bringing specific support for improving the commercialisation processes at each level with rightful policy measures. Computation of crop commercialisation index (CCI) was another important measure that determined crops amenable for commercialisation. The results indicated that vegetables were the best option for commercialisation. Ranked second, third and forth were tubers, fruit and food grains in that order.

Finally, an analysis of enterprise profit as percentage of annual crop sales was done in order to understand about crop diversification potential. The results indicated that the enterprise profit as percent of sales from vegetables, fruits and tubers were higher than that of food grains. For example, in 2010-2011 growing season, percent of tubers (82%), vegetables (79%), fruits (93%) and food grain registered only 48 percent.

The multinomial logistic regression revealed that credit facilities, farmer business orientation, innovativeness, commodity transportation, monthly income and information source utilization were the significant factors influencing the transition from subsistence to semi-commercial. Education and extension services were significant factors contributing to the transition from semi-commercial farming to commercial.

Despite the successes registered, the informal sector continues to face problems ranging from its productivity to managerial aspects. Its productivity is constrained with inadequate infrastructures (roads, markets, water, electricity, etc), access to credit facilities, lack of processing facilities and marketing linkages. On managerial aspects, prevailing situation indicated that there is limited farmer capacity building, limited information and non farmer favouring policies regarding their growth in the sector.

In conclusion, the informal sector demonstrates immense potential in bringing better wellbeing of rural communities. It holds the promise of being the target for developmental activities by different agencies, as better technologies, market information and farmer support can help increase the volume, efficiency and value share of the informal sector which will ultimately improve the rural economies to a great extent.

APPENDIX VI: FIELD PHOTOS DURING DATA COLLECTION IN NTCHEU AND BALAKA DISTRICTS

Display of produce for sale at Tsangano market, Ntcheu district

Agro-based products for sale at Tsangano market, Ntcheu district

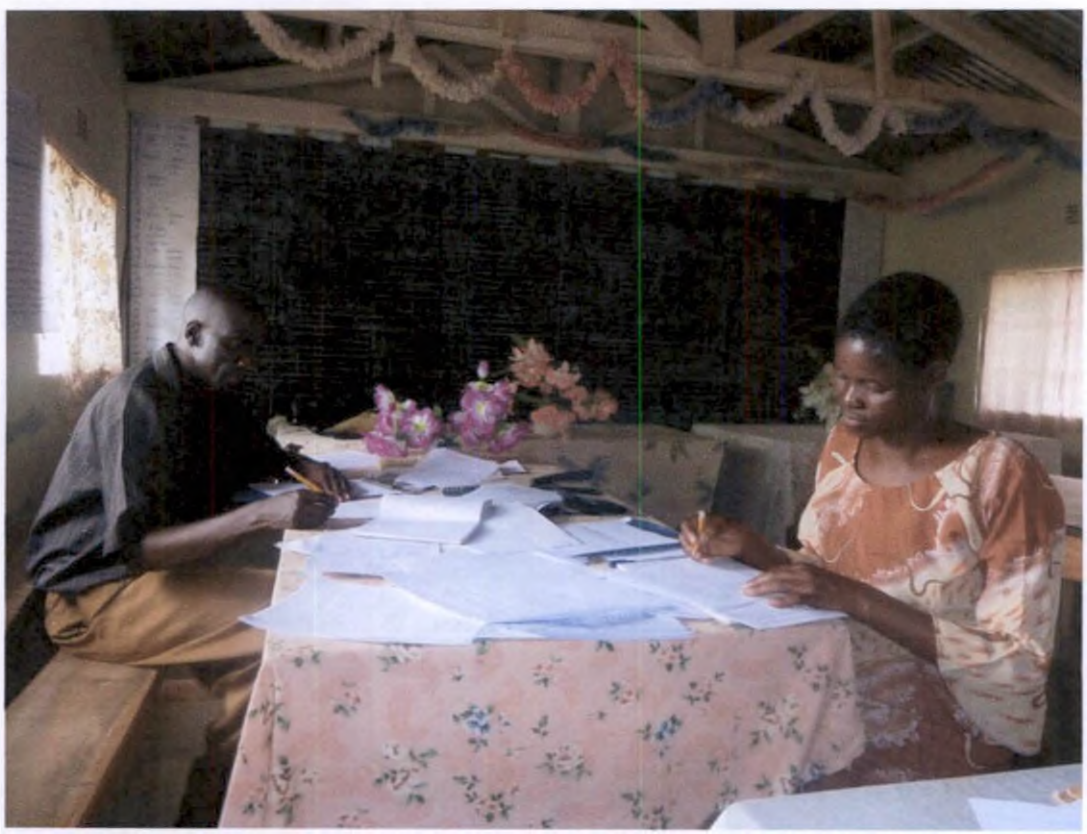
Kampepuza market, Ntcheu district along highway road

Ulongwe market, Balaka district

Mary Hawa at Ulongwe market, Balaka district

Molesi Assani selling his tomatoes at Ulongwe market

Mr Assani on his selling bench



Nsipe Extension planning area (EPA) in Ntcheu district.

Display of irish potatoes at Tsangano market, Ntcheu district