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FARM BUSINESS MANAGEMENT SKILLS A MISSING LINK FOR SMALLHOLDER FARMERS: A CASE OF MALINGUNDE, MALAWI

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ABSTRACT: *This study aimed to assess specific farm business management skills which are essential soft skills for increasing agricultural profitability. The study aimed specifically to assess whether smallholder farmers have received farm business training from any organization; examining the level of satisfaction and importance of the farm business management trainings and exploring specific farmers training needs with respect to core principles of farm business management. Quantitative data from 200 smallholder farmers and other stakeholders involved in agricultural activities was collected in central region of Malawi and analysed using Spearman rank correlation with its rho test statistic (rs) tested the relationship between training in farm business management and farmers' satisfaction and performance. The study found that less farmers received farm business management skills training, training service providers from both government and non-governmental organizations are not providing the necessary management skills due to either inadequate capacity, knowledge and resources or a combination of these.*

KEYWORDS: Farm Business Management Skills, Smallholder Farmers, Poverty

INTRODUCTION

Most sub-Saharan economies are agro based. In Malawi, the agriculture sector employs 85% of the population as smallholder farmers accounting for 35 to 40% of national GDP and contributing over 90% to total export earnings (Chirwa *et al.*, 2008). Tobacco is a major foreign exchange earner and contributes approximately 65% of the country's export earnings, followed by tea (8%) and sugar (6%) (MoAFS, 2011). Maize is the major food crop, cultivated on over 65% of arable area (World Bank, 2013).Agriculture in Malawi determines the pace and direction of overall economic growth. According to Tchale (2009) there is direct correlation between agricultural sector performance and overall economic performance. The country's economic performance thus depends largely on smallholder farmers' performance. However, despite receiving attention from government and non-governmental development agencies to steadily increase their share of marketed output, smallholder farmers fail to reinvest and continue to live below the poverty line. Krishna (2012) notes that although technical packages, extension services, marketing and credit structures exist in Africa, there is need to establish why these efforts have not led to the improvement of smallholder livelihoods. Fair Trade indicates that there are formidable problems among smallholder farmers and the solution could be in the very same system which includes providing proven and comprehensive technical packages and advice; attractive prices for their products, training in entrepreneurship skills and management skills which may require policy change to ensure that the smallholder farmers have enough venture capital, technology and skills to be innovative. The assumption being that smallholder farmers no longer have production constraints but definitely management problems.

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Problem Statement

The government and development partners have put emphasis on smallholder agriculture since independence. The justification being that since smallholder farmers make up 85% of the population and improving their production will result in collective economic improvement of the country (MoAFS, 2011). However, after five decades of collaborated efforts, there is slow achievement of the expected dividends and the smallholder farmers are still living below the poverty line. Poverty level remains high with recent estimates slightly declining from 52.4% in 2004 to 50.7%% in 2011 (NSO, 2012). There are a number of factors that attributes to this situation including lack of capacity in business management skills to make agriculture more profitable among these resource-poor farmers. Furthermore, the situation could be a problem of multiplicity of interventions from the wide range of stakeholders involved in agricultural production. World Bank (2013) pointed out there is a general lack of business and financial management capacity among smallholder farmers in many developing countries. For this reason, farmers are faced with numerous financial challenges and cannot make productive investments, plan consumption between periods of plenty and scarcity and eventually minimising risk instead of maximising returns (DFID, 2007; World Bank, 2013), as well as reducing their abilities to access financial services and to secure much-needed fixed and working capital which includes buildings, machinery, hybrid seeds, pesticides and fertilisers (Fan *et al*, 2013). Despite these revelations, there is scanty literature on farm business management skills assessment among smallholder farmers in Malawi. There is however more information on literacy levels in general from studies such as Household Integrated Surveys, Health and Demographic Surveys and Population Census conducted by the National Statistical Office (NSO). This study therefore was set to determine level of farmer specific skills required in farm business management which is critical for farmers to adopt the concept of 'farming as a business' as enshrined in the Malawi Growth and Development Strategy (MGDS) (which is the overall national policy) and the Agricultural Sector Wide Approach (ASWAP) (which is the current agricultural guiding policy).

LITERATURE REVIEW

Smallholder Agriculture in Malawi

In Malawi, there is a close correlation between smallholder agricultural performance and overall economic performance (Tchale, 2009; GoM, 2007; Chirwa, 2006; Tchale et al. 2010). In 1991, 1993, 1995, 2002 and 2004 smallholder agriculture slumped due to a combination of factors, growth in the overall GDP was also markedly reduced. Despite the role smallholder agriculture plays in Malawi's socioeconomic development it is hampered by unimpressive technical performance (Tchale *et al*., 2010). Salami *et al* (2010), also noted that although smallholder families contribute more than 40% of the GDP they constitute more than half of Malawi's hungry and poverty-stricken. Some of the factors that technically influence smallholder farmer performance include farmer education levels, access to improved technologies, the physical environment and socioeconomic variables such as gender and diseases (Alderman *et al*, 1995; Sherlund *et al*, 2004; Okike *et al*, 2004) and access to capital including land (Chirwa *et al*.,2008). It also follows that the methods of cultivation on these small landholdings among smallholder farmers remain traditional and non-mechanised (Green and Ng'ong'ola, 1993). The diminishing land sizes have implications for technology adoption and farm mechanisation (Zeller *et al*, 1998, Dorward, 1999, Chirwa, 2002).

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Efforts to Improve Smallholder Agriculture in Malawi: Past and Present

Agricultural development policy of the early post-independence government were geared towards supporting smallholder agricultural productivity. Strategies were implemented to support the policy including promotion of technology adoption supported by a government administered credit scheme, provision of extension services, subsidies on inputs and a system of guaranteed pan-seasonal prices for agricultural produce (Chirwa et al, 2008; Kumwenda and Madola, 2005). Extension service was mainly based on transfer of technology approach whereby information and training were disseminated through supply driven programmes while agricultural credit was subsidised through the Smallholder Agricultural Credit Administration. The Agricultural Development and Marketing Corporation (ADMARC), a state grain marketing agency, played a role in the agricultural development strategy as a monopsony buyer of smallholder produce and a supplier of agricultural inputs (Chirwa *et al*, 2008). Largely, the government's strategy in the smallholder agricultural sector was aimed at increasing output and productivity to meet the food security needs and the cash requirements of the largely rural population.

In the late 1960s and early 1970s, the government started shifting support towards estate agriculture particularly the production of burley tobacco (Kydd and Christiansen, 1982), against a background of wide inter-annual fluctuations in smallholder production which raised doubts about the ability of smallholder agriculture to generate economic growth, provide for food security, and sufficient government revenues for essential development investments. As a result of the shift, the ratio of the value of estate production to the value of officially marketed smallholder production increased from an average of 0.79 in the late 1960s and early 1970s to 1.93 in 1979 (Chirwa *et al*, 2008).

Although the shift from smallholder agriculture to estate-based production seemed to produce good macro-economic results as the country showed quite rapid economic growth with an annual average rate of increase in GDP of 5%, the income distribution became highly unequal and worsening (Jauch and Muchena, 2011). Land, labour and profit were being squeezed out of the smallholder sector, further impoverishing the rural livelihoods whose land base was also being eroded by population growth as noted by Kydd *et al* (1982). Per capita grain production fell from 240kg in 1964 to 210kg by 1979. As a result, from the mid-1980s, the Government decided to revert to the earlier policy of promoting smallholder-based agricultural production. Since 1981, government started to implement reforms aimed at the removal of distortions and biases against smallholder agriculture with the intention of creating conducive environment and improve access to productive resources among all groups of smallholder farmers (Tchale *et al*, 2004). Structural Adjustment Program (SAP) loans Malawi were introduced in order to provide incentives to producers and expanding the role of the private sector in marketing.

However, according to Tchale *et al* (2004), during these years, there were fears that the void in technical performance may have compelled farmers to practice unsustainable intensification (Chirwa, 2006). Despite these policy reforms largely aimed at de-regulating the general agricultural environment in order to improve smallholder agricultural productivity in the 1980s, the attainment of improved technical efficiency still remains largely illusive and remains unattained among the majority of the smallholder farmers (Chirwa, 2006; Zellar *et al*, 1998). The period from 1995 is regarded as the period after major structural reforms (Chirwa *et al*, 2008; GOM, 1987; 2007; 2011 and GOM and World Bank 2006). Nonetheless, there have been several policy changes during this period with some of the abandoned policies in the 1970s and 1980s being re-introduced particularly in the agricultural sector hence impacting smallholder

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farmers both negatively and positively. Chirwa *et al* (2008), note that emphasis in these policy documents has shifted from poverty alleviation to economic growth with poverty reduction. Agricultural development has been at the centre driven by the belief that pro-poor growth can be achieved by growth in the sectors where a large proportion of the poor participate.

Business Management Skills among Smallholder Farmers

Smallholder farmers need to be better equipped with business management skills if they are to play a central role in improving agricultural productivity (Mohit, 2012). A considerable number of studies pertaining to business and financial management capacity among smallholder farmers have been conducted with particular interest in countries where smallholder agriculture is largely the hub of rural socioeconomic development. Among others, Horioka and Wan (2007) in China, Dewen (2010) in the Far East including China, Obayelu (2012) in Nigeria, and Banerjee and Duflo (2007) in Sub-Saharan Africa. These studies provide a more generalised account of the state of business and financial management skills among smallholder farmers in developing countries.

In Malawi, like in most developing countries, although much of the food supply continues to depend on smallholder agricultural production, there is a general lack of business and financial management capacity among smallholder farmers (World Bank, 2013). For this reason, the farmers are faced with numerous financial challenges. For example, they are often prevented to make productivity-enhancing investments and to plan consumption between periods of plenty and scarcity, eventually minimising risk instead of maximising returns (DFID, 2007; World Bank, 2013), as well as reducing their abilities to access financial services and to secure much-needed fixed and working capital which includes buildings, machinery, hybrid seeds, pesticides and fertilisers (Fan *et al*, 2013). One of the major financial challenges facing smallholder farmers is their limited access to financial options and services for keeping their savings in formal accounts as observed by Fan *et al* (2013). Mostly in African countries than in Asia, there is evidence that the absence of financial savings services contributes to the low savings rate among smallholder farmers and their lack of buffers against adversity and shocks. The savings of the rural poor, who are mostly smallholder farmers, in China is 20 to 30 %(Horioka and Wan, 2007) as compared to an average of less than 3% in Sub-Saharan Africa (Obayelu, 2012).

Another challenge arising from the lack of capacity in business and financial management among smallholder farmers is the limited access to loans from commercial banks because there is always doubt among the lending institutions if the loans are to be effectively administered, used and/or repaid (Banerjee and Duflo, 2007). As revealed by Diagne and Zeller (2001), it is difficult to establish sustainable rural finance institutions in areas that support a poorly educated population and that lack both soft and hard infrastructure. Fan *et al* (2013) also note that apart from lack of business and financial management capacity among smallholder farmers, there are other factors contributing to the limited number of loans available to them which include weak administrative capacity of rural banks, agriculture specific covariate risks such as variable weather patterns, pests, market price fluctuations and lack of formally defined property and land-use rights to act as collateral for loans.

In order to transform smallholder agriculture into a profitable enterprise, smallholder farmers need to be empowered with capacity in the business, financial and managerial aspects of agriculture, including market linkages which all require strengthened efforts (Llanto, 2010).

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Universality of Management Theory

Generally, management is a human responsibility and skill that drives economic activities and development (Oghojafor et al, 2012). It is a systematic process aimed at improving the performance of an enterprise and it needs clear organisation of human knowledge (Smart et al, 2012). The concepts, principles and theories of management revolve around the framework of planning, organising and controlling of the resources available to an enterprise in order to achieve its set objectives (Weinrich, 1993).

There are many factors that affect the management process hence entrepreneurs or business managers cannot perform their tasks well unless they understand and are responsive to, these many elements which include financial (economic) aspects, environmental aspects, technological aspects, social aspects and political aspects among others (*ibid*). This gives rise to the many concepts, principles and theories of management. Although the managerial concepts, principles and theories have general validity, their application depends on the situation or type of enterprise in question. In other words, managerial activities are common to all managers or entrepreneurs, but the practices and methods must be adapted to a particular situation or enterprise (Wienrich, 1993). This concept is called 'the universality of management' in which managers or entrepreneurs perform the same functions, regardless of the type of enterprise, in order to achieve a given set of objectives.

Conceptual Framework

Independent Variables

Based on the theoretical literature discussed above we conceptualize the independent variables as nature or type of farm business management trainings (skills) offered to rural farmers. As entrepreneurs, smallholder farmers need to have comprehensive skills in farm business management given the profound changes in the agricultural industry and farming environment (Boehije, 2000). In this study, receipt of basic farm business management skills by rural farmers were investigated. Due to the exploratory nature of the study, these independent variables were taken as soft inputs to the process with resultant feedback or immediate output.

Farm Business Management

Farm business management is a set of techniques and information required in managing primary agricultural production, on-farm processing and marketing activities of which the major elements include business planning, production management, financial management, marketing, human resources management and environmental management (Chembezi, 1999). In this study, the focus was on examining whether smallholder farmers in the study area received training in these areas particularly in production management, financial management, farm records and agricultural marketing.

Agricultural Production

Production management is a crucial component of farm business management. It describes the processes of physically producing an agricultural product. This involves: land management, crop and livestock production, use of machinery and equipment, application of fertilisers and pesticides, disease control, breeding and feeding (Chembezi, 1999). Farmers as entrepreneurs must know and have these skills if they are to make their farming business profitable and meaningful.

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Farm Records

Farm records are also necessary tools for a successful business because they tell the manager (farmer) where the business (the farm) and whether it is on path to make profit (Kay and Edward, 1999). Complete and accurate farm records, when effectively used, can help increase profits for the farmer (Brannstrom 2008).Farm records, have four basic uses: (1) service tool, (2) diagnostic tool, (3) indicator of progress, and (4) forward planning (Brannstrom 2008).

Financial Management

Financial management is defined as the application of financial resources (capital) such as equity and credit (debit) to generate income for an agricultural enterprise. It includes record keeping, risk management, tax management and a number of decision making processes and techniques for optimising the financial performance of the enterprise (Chembezi 1999). Financial management is concerned with effective management of funds in a business with the overarching objectives to profit maximization and wealth creation (Paramasivan and Subramanian, 2005). The three major financial statements needed to carry out the control function of the farm business are the balance sheet or net worth statement, income statement and statement of cash flow or statement of changes in financial position (Greaser 1991). Farmers need to understand these financial statements and furthermore have knowledge to carry out basic financial statement analysis which can help them to understand whether their farming business is making profit.

Agricultural Marketing

Abbott *et al*, (1986) defines food and agricultural marketing as the movement of agricultural produce from a farm where it is produced to the consumer or manufacturer. Scarborough and Kydd (1992) argues that through the technical functions of storage, processing and transportation and through exchange, marketing increases consumer satisfaction from any given quantity of output. As incomes increases and non-agricultural sectors develop, there is an increased demand for marketing services. The role of markets in encouraging production through price incentives becomes crucial. Markets also have influence on income distribution, food security and other important and commonly held development objectives.

A farmer has to consider: What and how much to produce? Where to sell? How to sell? What grade, quality or form? When to sell? When to deliver? James and Eberle (2000). Thus a farmer has to understand and take into account all these components when deciding upon how to combine inputs, organize resources and what agricultural products to produce for which market. Furthermore, a farmer has to make technology decisions and observe rules laid down by institutions in order to be successful. In short, a farmer operates in a multi-disciplinary context requiring complex skills. Thus training in agricultural marketing is essential for farm business success.

Dependent Variable

Dependent variable of the study were quality of the services (training/ skills) provided to smallholder farmers which is essentially feedback or immediate output of the whole process of training or impacting the skills to smallholder farmers. The quality of service provision (dependent variable) was measured through series of indicators namely: a) receipt of the farm business management trainings, b) level of satisfaction of the trainings/skills provided, and c) level of importance of the trainings to farm enterprise. Good and relevant farm business

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management training *ceteris paribus* can contribute to effective and successful farm enterprises and has the potential to significantly improve living standards of rural farmers (Figure 1).

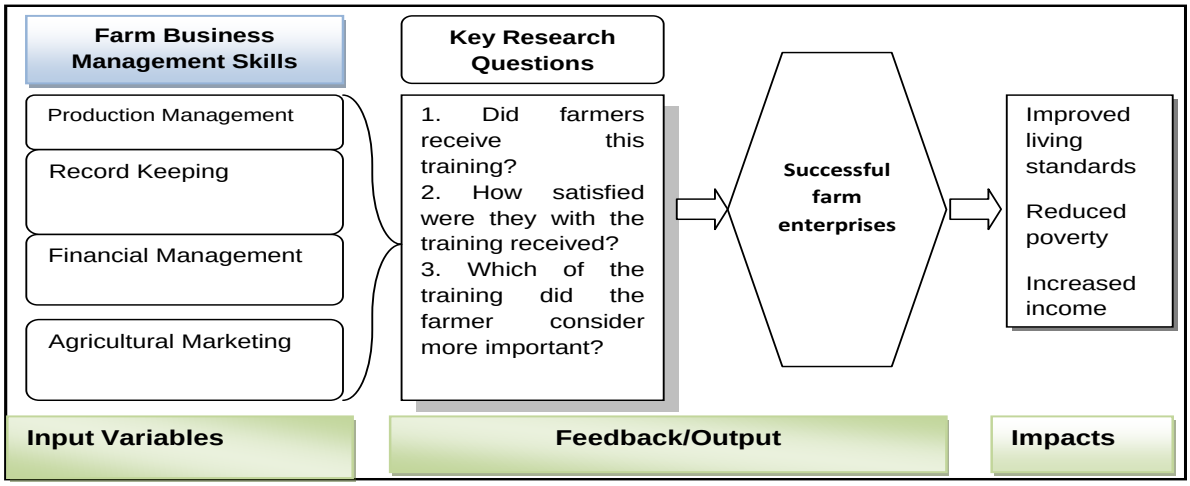

Figure 1: Conceptual framework: farm business management and successful farm enterprise

It should be pointed out that the relationship of quality farm business management training and associated output and impacts as presented in Figure 1 is a simplification of reality or simply a model. External factors such as climatic conditions and external economic shocks may influence the overall performance of farm enterprise. However, the response to these external shocks depends on the personal attitudes and decision making of individual farmer (Greaser, 1991).

Study Hypothesis

The null hypothesis (H_0) for the research was that there is no monotonic relationship between farm business training that farmers received and the level of satisfaction on the training received (H_0: $\rho_s = 0$) against the alternative hypothesis (H_A) that there is monotonic correlation (H_1: $\rho_s \neq 0$).

The study also tested a null null hypothesis (H_0) that smallholder farmers do not receive farm business training against the alternative (H_A) that farmers receive farm business management training.

The study went further based on the result in the second hypothesis to test that farmers were not satisfied and did not consider the training as important (H_0) against the hypothesis that farmers were satisfied and considered the training important (H_A). Finally the study explored specific farmers training needs with respect to core principles of farm business management.

RESEARCH METHODOLOGY

Study Area

The research was conducted in Malingunde Extension Planning Area (EPA), Lilongwe District in Central Region of Malawi. The respondents were selected from three villages; Ishmael,

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Mankhanga and Kalonga II. The study site was purposely selected because there has been a lot of institutional support going to smallholder farmers. Management interventions that have been provided in the area include provision of loans to targeted farmers who were organised into functional groups (Gausi et al., 2004).

Field Survey

Data was collected between August and September 2013. Information on smallholder farmers and representatives of state and non-state actors that are involved in agricultural activities in the study was also collected. Proportionate random sampling (PRS) was used to select two hundred (200) farmers in the three aforementioned villages. Structured questionnaires were used to collect data on smallholder farmers.

A check list was used for all government and nongovernmental development agencies engaged in the area. The questionnaires captured socio-economic and demographic data, agricultural production and availability of agricultural training as well as business management skills. The questionnaire was administered by a team of enumerators who were trained before the exercise. The survey tools were pre-tested for suitability before administering to the respondents.

Sampling Technique

Sampling procedure involved two stages; first, the determination of the number of villages that have to be included from EPA proportionate to the size (number of villages in the EPA) and the required total sample for the study. In the second stage, respondents in each selected village were stratified alphabetically and the k^{th} household were selected for interviews. The total number of farmers in each village was determined using: -

$$n = \left(z * \frac{c}{x} \right)^2$$

Where, n = the sample size required

C = coefficient of variation at 40% as a measure of variation

X = acceptable difference of the sample mean from the population at 5%

Z = standard normal deviation on 95% degree of confidence

Because both male and female headed households had equal chances to be included in the survey, no effort was taken to block the households. A total of 84 households which included 25% female headed households, 56 household representing including 21% female headed household and 60 households representing 15 female headed households from Ishmael, Mankhanga and Kalonga II villages respectively were sampled.

Methods of Data Analysis

Descriptive and inferential statistics were used for data analysis. Inferential statistics have been used to draw conclusions about populations based on sampled farmers. Statistical Package for Social Sciences (SPSS17.0) was used to analyse the data.

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Hypothesis Testing

Spearman Rank Correlation (with its rho test statistic symbolised r_s) was used to identify and test the strength of the relationship between two sets of data that are categorical in nature but not drawn from a bivariate normal population (Field, 2009). Spearman's correlation works by calculating Pearson's correlation on the ranked values of the data. Ranking (from low to high) was obtained by assigning a rank of 1 to the lowest value, 2 to the next lowest and so on (Field, 2009). The Spearman Rank Correlation (r_s) was calculated using the formula:

$$r_s = 1 - \frac{6\sum d_i^2}{n(n-1)}$$

Where d_i is the difference in the ranks given to the two variable values for each item of the data and n is the sample size.

On whether smallholder farmers received farm business training from any organisation, farmers indicated by yes or no. If the answer was yes follow up questions on the level of satisfaction on a scale of 1 to 5 where [1] Very satisfied, [2] Slightly Satisfied [3] Satisfied [4] Not Satisfied [5] No opinion were asked. Regardless of having previous training or not all respondents indicated which areas in farm business management training need to be improved. This data was used to test the hypothesis on provision and level of satisfaction of the training provided.

RESEARCH FINDINGS AND DISCUSSIONS

Socio-Economic and Demographic Characteristics

Gender, marital status and age of household head

The analysis showed that 80% of the sampled households male-headed. Majority (84%) were married and living with their spouses, 8% were divorced or separated and 7% were widows/widowers. The average age of the household head was 42 years. Dominance of male headed households has implication on agriculture management as most agricultural activities are done by women but financial decisions are done by males.

Household size

The average household size was 6.2. The results revealed that there were more members in male headed household (6.3 ± 0.092) compared to female headed household (5.7 ± 0.194) and the difference was statistically significant, Z-test two sample for means = 2.92, $p < 0.05$. The observed household size was higher compared to 2012 national average estimated at 4.5 persons (NSO 2012). The adult equivalence was computed using World Bank conversion factor which counts for each child less than 15 years as half an adult equivalent regardless of sex. The analysis shows that the average adult equivalent was 4.7 persons.

Dependency ratio defined as the ratio of prime-age adults to the total number of persons in the household outside the economic active population (children < 15 years and adults > 65 years) (NSO, 2012) was calculated. The results show that the sampled households had a dependency ratio of 1.2 suggesting that there are 0.2 more economically inactive persons for every economically active person in the study area. The computed dependency ratio is the same as the overall national dependency ratio of 1.2 for Malawi (NSO, 2012).

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Household Education Level

Education has a significant impact on peoples' ability to understand various development programs and it is known to be a major determinant for living standards (UNICEF & UNESCO, 2007; OECD, 2013). The study showed that household heads stayed for more years in school on average (6 ± 0.12) compared to their spouse (4 ± 2.67). The difference was statistically significant, Z-test two sample for means = 7.77, $p < 0.05$. These results were within expectation with the level of education in Malawi which is higher among men than women (NSO, 2012).

Farm and Household Assets

Farm and household assets have significant influence on the way farming households adopt new technologies, access information, respond to shocks and break the poverty cycle (World Bank, 1980). Within the local setting, these assets are used to categorize households into different socio-economic classes such as 'poor' and the 'non-poor' households.

Household land holding size

Land is one of most important assets for agricultural household in any society. Studies have shown that over 60% of the active populations in Sub-Saharan Africa depend on land for their livelihood (ECA 2003). Likewise in Malawi 85% of the rural population make a living through subsistence farming (NSO 2005).

The analysis shows that most of the households are experiencing land shortages with 58% of the households owning land of not more than 2 acres. With mean land holding size of 2.5 acres, the mean cultivable land was 2.2 acres, and 66% of the households reported to have been cultivating up to 2 acres. The results further showed that male headed households had more land 2.7 acres compared to female headed households which had 2.3 acres on average. Not surprising therefore, male headed households also cultivated more land (2.5 acres) when compared to female headed households (1.9 acres).

Farm implements and household items

Households reported to have owned various types of assets which included garden tools, radios, bicycles and household furniture. However, the analysis showed that high value assets like ploughs, treadle pumps, oxcarts and television sets are scarce (Table 1).

Household livestock ownership

Livestock is a vital source of household livelihoods in sub Saharan Africa because of its multiple functions (Jahnke, 1982; FAO, 2009; Pica-Ciamarra et al., 2011). There are different livestock species and in order to present them as a single estimate, the concept of Tropical Livestock Units (TLU) which provides a convenient method for quantifying a wide range of different livestock types and sizes in a standardized way was applied. A TLU is normally taken to be an equivalent of 250 kg live weight (Jahnke, 1982; FAO 2005; Chilonda and Otte 2006). The mean TLU for the sampled households was 0.3 (Table 1). The computed TLU of 0.3 is much lower than the national average 0.53 as reported by GoM and World Bank (2007). The widely kept livestock was chicken with 79% of the sampled households raising at least one chicken, followed by sheep and goats (35%). On average, male headed households had a higher TLU (0.3 ± 0.77) than female headed households (0.91 ± 0.11) and the difference was significant, Z-test two sample for means = 2.545, $p < 0.05$.

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Type of dwelling units

Type of dwelling house for a household reveals the household's economic status. About 73% of the households own and live in houses made from locally available materials (Table 1). This signifies the severity of poverty amongst communities in the villages. A moderate number of households (24%) live in own burnt brick, iron sheet roofed houses

Table 1: Farm and household assets

Farm and Household Asset	Sampled Villages			
	Ishamael (n=84)	Mankhanga (n=56)	Kalonga II (n=60)	All (n=200)
Total farm size (acres)	2.2	2.0	2.1	2.0
Cultivated	1.8	1.9	2.0	1.7
Uncultivated	0.4	0.1	0.1	0.3
Assets (%)				
Plough/ridgers	0	3	0	1.2
Radio	39	60	43	48
Treadle pump	3	3	3	4
Garden tools	97	95	97	96
Bicycle	42	42	29	38
Oxcart	8	10	18	11
Household furniture	28	43	39	37
Television set	2	0	4	3
Livestock				
Livestock ownership (TLU)	0.3	0.5	0.2	0.3
Type of house (%)				
Own burnt brick iron sheet roofed	23	18	25	24
Own house from local material	73	80	71	73
Rented burnt brick iron sheet roofed	0	2	2	1
Rented house from local materials	4	0	2	2

Information, communication and technology

One of the major reasons that make smallholder farming systems less productive and non-profitable is information and skills gap that constrain the adoption of available technologies and management practices (World Bank, 2007). The results showed that about 3% of the surveyed households own television sets. Mobile phones are rapidly becoming an important mode of communication and information sharing in many agro-based economies. The results show that 48% of the farmers owned radios (Table 1). The results seem to suggest that radios and mobile phones can be used to share various agricultural information with the farmers supplementing the available communication methods.

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Social Capital among Sampled Households

Grootaert and van Bastelaer (2001) defined social capital as internal social and cultural coherence of society, the norms and values that govern interactions among people and the institutions in which they are embedded. Woolcock and Sweetser (2007) found that rural households that have strong social capital had faster rates of technology diffusion and improved agricultural productivity. The study results showed that the sampled households belonged to different types of farmer groups. The majority of the households belonged to farm input supply (66%) and savings and credit groups (19.6%). About 95% of households reported that they were still members of farmer groups at the time of the survey while about 4% were not or had left the groups. The main reason for leaving the groups were either poor group management (32%), group collapsed (25%), organization was not useful or profitable (24%) and in some cases, farmers were unable to pay annual subscription fee (13%). The estimated period of membership to a farmer group by a member of a household varied from 3 to 10 years.

Agricultural enterprises for the sampled households

The results showed that farmers are involved in a range of agricultural enterprises dominated by maize production (90%) in 2012/13 growing season, raring of local chickens (66%), sweet potato (48%) and raring goats (41%) (Table 2).

Source of household income

The most popular income source across the villages is crop sales (82%) followed by the income from small businesses (41%). Other sources of income are livestock sales, hired labour, remittances, artisanal, salary and pension. The results seem to suggest that there are narrow income sources for the rural households. The household with the highest income from sale of agriculture produce earned about 5, 000 USD in 2012/13 growing season and the least 250 USD with a mean of 1, 000 USD. Although the average income for smallholder farmers is higher than the minimum wage of 420 USD per year of a salaried worker, living standard of salaried workers is better than the smallholder farmer which could be attributed to poor financial management.

Provision of agricultural training to farmers

Farm business management skills for the sampled households

The study showed that smallholder farmers are not receiving adequate training in basic farm business management. Only 20% of sampled households attended training in group dynamics, while 13% received training on land husbandry and 12% in livestock and crop management. The results suggest that agricultural extension service needs to be improved to make farmers earn better results. Broadly, this could be a reflection of a lot of factors some of which may include inadequate capacity, knowledge and resources within the responsible ministry.

Level of satisfaction with farm business management trainings

The study further investigated the level of satisfaction with the trainings that the farmers are received. For the few farmers (20%) that received trainings, very few only reported that they were satisfied or very satisfied with the training that they received (Table 4).

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Table 2: Agricultural enterprises for the sampled households

	Sampled Villages			
Farm Enterprises	Ishmael (n=84) %	Mankhanga (n=56) %	Kalonga II (n=60) %	All (n=200) %
Maize	97	98	98	90
Chicken	59	62	68	66
Sweet potato	61	54	51	48
Goats	40	28	39	41
Vegetables	64	58	67	34
Groundnuts	82	86	59	23
Cassava	26	25	27	22
Beans	52	68	56	21
Soya beans	49	39	35	17
Pigs	13	27	18	14
Tobacco	31	15	13	2

Table 3: Provision of agricultural training to farmers over the past one year

	Ishmael	Mankhanga	Kalonga II	All
Farm Business Management	(n=84) %	(n=56) %	(n=60) %	(n=200) %
Agricultural marketing	4.9	10.8	9.2	4.7
Agricultural credit management	3.5	0	16.7	5.8
Group dynamics	12	28.4	29.2	20.0
Farm financial analysis	1.6	0	2.1	1.2
Farm investment analysis	2.5	0	1.7	1.4
Gross margin analysis	3	0	3	2.5
Farm record keeping	4	2	6	3.0
Business plan development	2	1	3	2.5
General Agriculture Skills				
Land husbandry	12	28.4	29.2	12.8
Irrigation principles	5.6	4.1	20	8.1
Livestock and crop husbandry	11.3	12.2	25.8	11.6

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Table 4: Level of satisfaction with training provided

	Level of Satisfaction			
	Very satisfied	Satisfied	Slightly satisfied	Un satisfied
			N= 200	
Farm Business Management	%	%	%	%
Agricultural marketing	8	14	10	1
Agricultural credit management	10	6	6	2
Group dynamics	7	16	7	1
Farm financial analysis	5	9	8	1
Farm investment analysis	9	12	13	1
Gross margin analysis	12	11	2	5
Farm record keeping	10	5	6	2
Business plan development	15	7	4	1
General Agriculture Skills				
Land husbandry	2	3	2	1
Irrigation principles	8	11	2	13
Livestock and crop husbandry	15	7	4	1

Agricultural training providers

The study established that households received training from different extension service providers. The results show that farmers in the study area received extension trainings from government extension agents (12%), private sector extension worker (25%), civil society extension worker (7.4%) and lead farmers (17.4%). The results suggest that the private sector extension workers provided more of the trainings to the area. These extension workers could mostly from tobacco companies since Maligunde is one of the areas where tobacco is a dominant crop.The study further established that households were not satisfied with the delivery of the trainings regardless of the training provider. For instance, only 12% of those that were trained by government agents were satisfied, whilst 5% of those trained by private sector extension workers were satisfied. For those that were trained by the Civil Society Organizations extension workers, 7% were satisfied and 4% were satisfied with lead farmer training. The findings imply that there is still more work for service providers to do to ensure that they deliver good quality training that meets the expectations of the farmers.

Farmers training preferences/demand

The survey also sought the views of the households in terms of their preferences with respect to different farm business management trainings. By and large, households rated all trainings as important and necessary for agricultural development. However, the five most preferred training were better farm financial analysis (50%), farm investment analysis (40%), credit management (42%), business plan development (41%) and group dynamics (37%) (Table

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5).The high demand/preference of trainings further confirms to earlier findings that farmers are not receiving adequate agriculture training. The high demand may also be due to fact that the majority of households have low levels of education as reported earlier hence the trainings may help them update their knowledge on agricultural production and specifically on farm business management.

Agricultural produce marketing

Agricultural marketing is the epicentre of any agricultural enterprise. The study therefore wanted to find out where farmers usually sell the agricultural produce and whether they were satisfied with the prices in those markets. Results show that 85% of the sampled household sold their crops whilst 45% sold livestock. Major crops sold were maize (54%), groundnuts (54%), sweet potato (40%), vegetables (40%), beans (37%), soybeans (35%), cassava (19%) and tobacco (18%) while the major livestock sold was chicken (54%) and goats (12%).

Table 5: Household preference/demand on agricultural service provision

	Level of importance with respect to demand/preference (n=200)			
Farm Business Management	Very important %	Important %	Slightly important %	Not important %
Agricultural marketing	36	30	9	25
Agricultural credit management	42	27	7	24
Group dynamics	37	32	8	24
Farm financial analysis	50	32	5	14
Farm investment analysis	40	28	10	22
Gross margin analysis	32	26	12	30
Farm record keeping	27	32	24	27
Business plan development	41	36	6	18
General Agriculture Skills				
Land husbandry	39	28	9	25
Irrigation principles	36	30	9	25
Livestock and crop husbandry	39	27	9	24

About 37% of the farmers sell their produce to mobile vendors followed by road side selling (23%) and other private traders (13%). The major reasons for selling to mobile vendors is not necessarily due to high price offered but due to long distance and transportation costs to better markets. Farmers in all the markets were generally not happy with the prices offered at different selling points. Surprisingly, vendors that are mostly touted as 'cheats', were where most of the farmers sold their agricultural produce. The results suggest that there is need for government and partners to increase farmers' access to better markets where they can get good prices for

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their produce by among other things ensuring that prices offered by bodies like ADMARC, Certified traders and council markets are more competitive and satisfactory to farmers.

Correlation between farmer training and level of satisfaction

A Spearman's correlation was run to determine the relationship between farmer training and the levels of satisfaction that they received in farm business management. The results showed that there was a weak positive monotonic correlation between farm business training that the farmers received and level of satisfaction emanating from the same (r_s = 0.24, n = 200, p > 0.05).

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

This study assessed farm business management skills and capacity among smallholder farmers in Malawi. The study interviewed 200 smallholder farmers selected from three villages namely Ishmael, Mankhanga and Kalonga II in Malingunde EPA Area, Lilongwe District in Malawi.The population characteristics in the surveyed villages generally portray a young population (average household age of 42 years), with relatively high dependency ratio (6.2 members per household and experiencing land pressure (average household landholding size at 2 acres). Furthermore, households are poorer as evidenced by growing of few and low value crops like maize and roots and tubers, inadequate livestock (mostly chickens), limited assets and low quality dwelling places among others.

Generally, the results show that very few farmers have farm business management skills and for the privileged few accessing those services, the trainings were found to be strategic importance to their respective farming enterprises, however there was weak monotonic relationship between the training received and the level of satisfaction emanating from the same. Furthermore, training service providers seem to show that they are not satisfying the needs of rural households. The results also showed that agricultural extension service system in Malawi which is mandated to provide farm business management training to farmers is not doing its work as per expectation of the farmers. Broadly, this could be a reflection of a lot of factors some of which may include inadequate capacity, knowledge and resources within the responsible ministry. With respect to agriculture marketing, most farmers continue to sell their produce through vendors even though they are touted as ‘cheats. ’ Farmers continue to sell to these vendors mainly due to long distance and transportation costs to better markets. It was not surprising therefore that the smallholder farmers in all the markets were generally not happy with the prices offered at different selling points.

Based on the foregoing findings the study made the following recommendations: a) government and partners in the agricultural sector should intensify farm business management training to rural farmers to allow the farmers fully embrace the concept of ‘farming as a business’. This will allow farmers to realize more profits from their farming and easily move out of poverty. For instance, training in gross margin analysis will allow farmers understand their fixed and variable cost on their enterprises and be able to determine appropriate farm gate price for their produce based on actual costs incurred. In case, farmers will be taking their produce to market, then trainings in market margin analysis will be appropriate to allow them add appropriate market margins and hence be able to negotiate better price for their produce. b) government and partners in the agricultural sector should improve their engagement with rural farmers on the nature of agriculture services, including farm business training to be

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provided so that they are user oriented for optimal benefits and in addition they should intensify market research and strengthening existing marketing structures so that farmers get value for their hard work through better prices.

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