CONSTRAINTS FACING SMALLHOLDER FARMERS IN MAIZE MARKETING: A CASE STUDY OF PETAUKE DISTRICT

A Research Report Presented to the Department of Agricultural Economics and Extension Education of the University of Zambia

BY

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LIST OF ACRONYMS

FAO	Food and Agriculture Organization
FRA	Food Reserve Agency
MMD	Movement to Multiparty Democracy
P-value	Probability Value
SPSS	Statistical Package for the Social Sciences

ABSTRACT

Constraints facing Smallholder Farmers in Maize Marketing: A Case Study of Petauke District

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Agricultural Marketing plays an important role not only in stimulating production and consumption, but also in accelerating the pace of economic development. For this reason, it has been described as the most important multiplier of agricultural development. Maize is the most important crop in Zambia and has great potential to improve the living standards of the bulky of the rural population. Smallholder farmers face a number of problems in marketing their maize. This research study was carried out to find out the problems facing smallholder farmers in maize marketing. The study was undertaken in Petauke District in Eastern Province.

A sample of 68 respondents was randomly selected and data collected through administration of structured questionnaires. Data collected in this study was organized and analyzed using the Statistical Package for the Social Sciences (SPSS) software.

The markets that were available for the smallholder maize producer include: the government through FRA; the Local Markets; farmer Cooperatives; Businesspersons; and Breweries. Problems that smallholder framers faced in marketing their maize were found to be low prices, unstable markets, transportation, and lack of packaging materials. The outstanding of these was transportation. It was discovered that there was correlation between farm income of the smallholder farmer and his /her susceptibility to marketing problems. The reasons that were given by respondents for preferring one market over another were: price; early buying of maize by market participants; early payments to the farmers; closeness of the market to the farmers; availability of market in areas where markets are not fully developed; and membership to a Farmer Cooperative.

Farmers need to recognize the importance of storing maize and sell later in the season when the prices are high in the market. Education of smallholder farmers in carrying out effective marketing decisions that can safeguard their interests is important. Government should encourage farmers to strengthen the cooperative movements in order to be able to have access to a better mode of transport through mobilization of their resources. It is recommended that further study be undertaken to determine factors affecting smallholder farmers' market choice

CHAPTER 1

INTRODUCTION

1.1 Introduction

Marketing is the act of buying and selling of products and services. According to the FAO Report (1961), agricultural marketing comprises all the operations involved in the movement of food and raw materials from the farm to the final user or consumer. Thus agricultural marketing includes all those activities that the farmer needs to do before the product reach the consumer. The activities include grading, processing, cleaning / sorting, drying, threshing, bagging, storing, and transporting. Producers have a number of marketing channels through which to sell their products to consumers. These marketing channels fall under two broad categories namely; direct marketing and indirect marketing. Direct marketing is where the producer himself sells to the consumer or user of the product whereas indirect marketing is when the producer sells his product to an intermediary who has intention to resell the product. When the producer resorts to direct marketing he takes care of all the marketing activities involved, but if producer uses indirect method of marketing he passes on some marketing activities to the intermediary. A marketing channel is the sequence of intermediaries through which goods from producers to consumers pass (FAO, 1961).

Marketing plays a significant role in economic development. The agricultural sector provides raw materials for agro-based industries and supplies the industrial workers with food and fibre. The sector provides employment to millions of people engaged in various activities such as packaging, transportation and processing, and contributes significantly to national income. National income is the source of the much needed resource to finance development programmes. The expansion of the agricultural sector, which is of relevance to economic development, depends on the effectiveness and efficiency of the marketing system in place. Efficient marketing system provides producers with incentives to increase production which may contribute to increased rural incomes. In order therefore for government to achieve its objective of attaining increased agricultural production (particularly maize production), and consequently to realize food security and increased

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incomes among the rural agricultural population, there is need to look at the problems confronting small holder farmers in maize marketing.

Maize has been one of the major policy targets as it is the majority Zambian staple food crop. The crop occupies the most time of agricultural policy makers. This is largely understandable given that maize still is the single most important crop in Zambia's smallholder sector in terms of gross value of production and gross value of sales. Maize contributes the most to total gross value of agricultural production. The 2003/4 total production for maize was 1365103 metric tones seconded by sorghum with 40887 metric tones (Zulu. et al.,2007). As such, it is commonly understood that policies to influence maize production, input use on maize and its marketing constitute the major means by which to promote smallholder income growth and food security.

Policies of the Government of the Republic of Zambia (GRZ) aimed to support smallholder incomes from maize production include producer support prices offered by the FRA, tariffs on imported maize to restrict inflows of maize that might undercut farm prices, and government programs to make subsidized fertilizer available for use on maize.

In 1991, the Movement to Multiparty Democracy (MMD) government took the reigns of political power on a platform of a liberalized political dispensation. One of the agricultural reform policies had been market liberalization. This reduced government involvement in agricultural marketing. The private sector was perceived to have adequate potential to create a more competitive agriculture that was to see a more efficient agricultural marketing system. The fact though remains that the major producers of maize (i. e. the local small scale farmers) are scattered all over the country and far from the main markets, and this implied high marketing costs for the private firms. The result was failure by the private sector to create an efficient maize marketing system that could take care of the interests of both producers and consumers. The MMD government greatly scaled down the pan-territorial pricing policy and government maize buying apparatus. Starting in the early 1990s, these marketing policy changes led to a diversification of

smallholder farmers to other crops, which seemed to provide better marketing opportunities.

The New Deal MMD government that came to power in 2001 pursued a different policy which re-introduced pan-territorial pricing and a government led buying agent, the Food Reserve Agency (FRA). The advent of the New Deal MMD government with its distinct policies is likely to create or have created a new dimension of marketing problems for the smallholder farmer. The aim of this study was to find out the marketing problems facing *smallholder farmers in marketing their maize.*

1.2 Problem Statement

The dominance of maize as the National Staple Food Crop was confirmed in the colonial period through the state marketing system and pricing policies. Maize thus was seen to have great potential to contribute to improving the standards of living of the bulky of the rural population (Wood, 1990). The crop has maintained its supremacy as is evidenced by its contribution to total agricultural gross production (Zulu, et al., 2007).

It is therefore not surprising that one of the Government's Agricultural Policy components involves promotion of maize production in the country in an attempt to attain National Food Security and to improve the incomes of those engaged in its production especially the rural agricultural population, and hence helps in fostering rural development. Thus policies to influence maize production, input use and marketing constitute the major means by which to promote smallholder income growth and food security, and rural development. Agricultural products' marketing plays an important role not only in stimulating production and consumption, but in accelerating the pace of economic development. Efficient marketing system stimulates production and contributes to increased farm incomes. Increased production and farm incomes induce producers to invest in modern technologies which result in further increases in production and productivity. This sets a multiplier effect which results in economic growth that is self perpetuating.

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Despite the importance of agricultural products' marketing in rural development, the dominant smallholder farmers, in the context of maize, are still confronted by a number of marketing problems. This might discourage maize production and contribute to low incomes in rural areas, and consequently retard rural development and attainment of food security. This research study therefore is to determine the problems confronting smallholder farmers in marketing their maize, to find out whether differences in household characteristics affect the susceptibility of smallholder farmers to marketing problems, and to determine factors affecting market choice by smallholder farmer.

1.3 Objectives

1.3.1 General Objective

The general objective of this research study was to find out the marketing problems that smallholder farmers face in marketing maize.

1.3.2 Specific Objectives

1. To determine the major maize markets available to smallholder farmers.
2. To determine the problems confronting smallholder farmers in marketing maize.
3. To find out whether differences in household characteristics affect the susceptibility of smallholder farmer to marketing problems.
4. To find out why smallholder farmers sold their maize to where they sold.

1.4 Significance of Research

The attempt by government to promote increased maize production among smallholder farmers through provision of inputs (particularly chemical fertilizers) and producer price support schemes may not yield positive results if not complemented by a good maize marketing system to remove problems facing the small holder farmers in marketing maize. The findings of this study are of great use to stakeholders and will assist in policy making.

1.5 Structure of the Report

The study report is divided into five chapters. The first chapter introduces the research problem, study objectives, significance of the study and structure of the study report. Chapter two reviews the relevant literature on the subject matter. The study methodology covered in chapter three include: random selection of sample size of 68 respondents; collection of data using a structured administered questionnaire; the method of data analysis; the target population; and the area of study. Chapter four explores the findings of the study whereas chapter five gives the conclusions along with the recommendations in line with the study findings and conclusions.

CHAPTER 2

LITERATURE REVIEW

This section reviews relevant literature on marketing and is divided into two parts. The first part covers the conceptual review whereas the second part is on empirical review. The conceptual review includes the concept of marketing, its importance and common marketing problems. The empirical review gives a review of research done in the field of marketing. The literature reviewed in this section gives great insight into the concept of marketing and is thus important in enhancing understanding of the nature and extent of marketing problems confronting smallholder farmers.

2.1 Conceptual Review

Simply stated, marketing is the act of buying and selling of products and services. According to the FAO Report (1961), agricultural marketing comprises all the operations involved in the movement of food and raw materials from the farm to the final user or consumer. Thus agricultural marketing includes all those activities that the farmer needs to do before the product reaches the user or consumer. The activities include grading, processing, cleaning / sorting, drying, threshing, bagging, storing, and transporting. Producers have a number of marketing channels through which to sell their products to consumers. These marketing channels fall under two broad categories namely; direct marketing and indirect marketing. Direct marketing is where the producer himself sells to the consumer or user of the product whereas indirect marketing is when the producer sells his product to an intermediary who has intention to resell the product. When the producer resorts to direct marketing he takes care of all the marketing activities involved, but if producer uses indirect method of marketing he passes on some marketing activities to the intermediary. A marketing channel is the sequence of intermediaries through which goods from producers to consumers pass (FAO, 1961).

2.1.1 Efficient Marketing System

The movement of goods from producers to consumers at the lowest possible cost, consistent with the provision of services desired by the consumer, may be termed as efficient marketing (Brunk, 1955). A change that reduces the costs of accomplishing a particular function without reducing consumer satisfaction indicates an improvement in the efficiency.

Efficient marketing according to Moore (1973) for farm products ensures that:

(i)   Increase in the farm production is translated into a proportionate increase in the level of real income in the economy, thereby stimulating the emergence of additional surpluses;

(ii)   Good production years do not coincide with low revenues to the producers achieved through effective storage, proper regional distribution and channelizing of latent demand; and

(iii)   Consumers derive the greatest possible satisfaction at the least possible cost.

Orderly and efficient marketing of food grains plays an important role in solving the problem of hunger. Most of those who go hungry do so because they have to pay higher marketing costs for food grains. If market system is not efficient, price signals arising at the consumers' level are not adequately transferred to the producers, as a result farmers do not get sufficient price incentive to increase the production of the commodities which are in short supply (Acharya, 1987). Thus, an inefficient marketing system adversely affects the living standards of both the farmers and consumers. In agricultural-oriented developing countries, agricultural marketing plays a pivot role in fostering and sustaining the tempo of rural and economic development. Markets trigger the process of development.

The development of an efficient marketing system is important in ensuring that scarce and essential commodities reach different classes of consumers. Marketing is not only an economic link between producers and consumers; it maintains the balance between demand and supply. The objectives of price stability, rapid economic growth and

equitable distribution of goods and services can not be achieved without the support of an efficient marketing system.

2.1.2 The Importance of Agricultural Marketing

Agricultural marketing plays an important role not only in stimulating production and consumption, but in accelerating the pace of economic development. For this reason it has been described as the most important multiplier of agricultural development. To promote increased production and its sustenance through technological development, an assurance of remunerative prices to the farmer is a pre-requisite, and this assurance can be given to the farmer by developing an efficient marketing system. The importance of agricultural marketing in economic development has been indicated by Acharya (1987) as follows.

(i) Optimization of Resource Use and Output Management

An efficient marketing system leads to the optimization of resource use and output management. Efficient marketing also contributes to an increase in the marketable surplus by scaling down the loses arising out of inefficient processing, storage and transportation.

(ii) Increase in Farm Income

Efficient marketing guarantees the farmers better prices for farm products and induces them to invest their surpluses in the purchase of modern inputs so that productivity and production may increase. This in turn would result in an increase in the marketed surplus and income for farmers.

(iii) Widening Markets

A well-knit marketing system widens the market for products by taking them to remote corners of the country i.e. to areas far away from the production points. The widening of the market helps in increasing the demand on a continuous basis, and thereby guarantees a higher income to the producer.

(iv) Growth of Agro-Based Industries

Many industries depend on agriculture for the supply of raw materials. Thus, an improved and efficient system of agricultural marketing helps in the growth of agro-based industries and stimulates the overall development process of the economy.

(v) Price Signals

An efficient marketing system helps the farmers in planning their production in accordance with the needs of the economy. This work is carried out through price signals.

(vi) Employment

The marketing system provides employment to thousands of persons engaged in various activities, such as packaging, transportation and processing.

2.1.3 Producer's Surplus of Agricultural Commodities

In any developing economy, the producer's surplus of agricultural produce plays a significant role. This is the quantity which is actually made available to the non-producing population of the country. From the marketing point of view, this surplus is more important than the total production of commodities. For the producer, the marketable surplus is what brings him/her revenue to meet other human needs. An efficient marketing system promotes production and hence contributes to increases in the marketable surplus. The rate at which agricultural production expands determines the pace of agricultural development, while the growth in the marketable surplus determines the pace of economic development (Singhal, 1989).

2.1.4 New Emerging Marketing Problems

The rapid development in agricultural research and the introduction of technological innovations, viz., high-yielding varieties, improved agricultural implements, fertilizers and pesticides in the recent past, have brought tremendous change in agriculture. This development in the field of agriculture has given rise to new problems in agricultural

marketing. The farmers/ producers should be assured of a fair price for their produce, failure to which they may lose the incentive to increase agricultural production. A fair price for the produce may be assured when there is an orderly marketing system. But an orderly marketing system can be created only when the problems are solved. The important problems include the following:

(i) Price Instability

Agricultural prices are very unstable and fluctuate violently. These prices fall in the post-harvest month and increase later in the year. The instability in prices adversely affects the income of farmers. There is the need to reduce the price instability. Several steps may be taken for farmers to get a better share in the consumer's kwacha. Some of the steps to check price instability are: Fixation of minimum support prices of the crops by the government; and purchase of the commodities if market prices fall below that level; and development of warehousing facilities to check post-harvest sales among the farmers.

(ii) Market Intelligence

Market intelligence is another problem, and this is an important adjunct of orderly marketing. The importance of market intelligence increases with increased marketed surplus. Some farmers market their products in the village and nearby less developed small markets out of their ignorance of the price prevailing in the nearby primary wholesale, secondary wholesale and terminal markets. Traders take advantage of the ignorance of the farmer because they have full knowledge of the price prevailing in the other markets. This places traders in a superior bargaining position. Availability of accurate information to producers, market participants and consumers remains a problem. This situation causes uncertainty in the market leading to unjustified political noise, uneven distribution of maize in deficit and surplus areas and wide disparities between open market prices in deficit and surplus areas (Singhal, 1989).

(iii) Grading of Agricultural Commodities

The grading of agricultural commodities has assumed importance in recent years because of the introduction of many new varieties of certain crops especially maize, wheat, rice and other cereals. There is a big price difference between varieties which arises out of consumer preference. In the absence of grading, both the producers and consumers suffer. The producers suffer in the absence of grading because they get the same price for the best quality of the produce and for a fair average quality. Grading ensures that producers receive a price which is commensurate with the quality of the produce. At the same time, grading protects consumers against adulteration (contamination).

(iv) Transportation

The rise in production and marketed surplus implies that farmers are faced with the problem of adequate and quick means of transportation of the produce at village level, inter-market level and inter- state level. Farmers generally transport the produce from the farm or village to the market in their ox-carts. These take a lot of time and involve a high cost of transportation by reason of their slow speed and low carrying capacity (Acharya, 1987).

(v) Storage

The problem of storage of farm produce is accentuated by an increase in the volume of production. Storage is necessary at the village site to check the tendency of immediate post harvest sale by the farmers, and at the market level so that the various marketing functions may be performed and advantage may be taken of any price rise. To make farming more attractive and the hard labor of the farming community more remunerative, it is necessary that storage facilities be extended right up to the producers' level.

2.2 Empirical Review

Much of the empirical literature is more on private sector traders than on producers which are the focus of this research study. Nevertheless, the literature is of use in pointing out the likely problems to be encountered by the small holder farmers in maize marketing.

The policy of market liberalization was aimed at improving the efficiency of the agricultural marketing system due to the competition which was envisaged would result as more and more economic entities got involved in agricultural marketing. Following market liberalization, a lot of studies have been carried out on private traders in several countries in Eastern and Southern Africa. These studies focused on private traders' response to market liberalization (Jaffee, 1994). There is little evidence of barriers to entry in food grains except may be for government regulation. A study by Jones and Yao in 1992, found out that 74% of traders in Tanzania began operating in 1984, when attitudes towards them where first relaxed and about 300 traders in Malawi were registered in the first year after liberalization measures were adopted in June 1987. These studies concluded that the private sector responded positively to market liberalization.

There is a substantial role for government to play in the process of liberalization in the transition from inward looking restrictive policies to outward oriented liberal ones (Santorum and Jones, 1989). The first step for government is to identify the objectives of liberalization, the second is to facilitate the transition, and the third is to reduce the constraints to the smooth allocation of resources. It is to improve infrastructure, including roads, ports and telecommunication and education (Haorylyshn and Tarr, 1992). It has, however, been established that there is little or no official support for private traders even after liberalization in many Eastern and Southern African countries. This has inhibited the private sector's capacity to respond to the opportunities of a more liberalized market environment (Jones and Yao, 1992).

In Zambia, this little or no official support was revealed by the Food Security Research Project done by Goverel, et tal in 2006. The project showed that following market

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liberalization in 1991, the budget share allocated to agriculture declined from 26% in 1991 to 4.4% in 1999. Inefficient marketing systems have persisted due partly to constraints faced by traders that have hindered creation of a competitive market. Traders operate in a highly constrained environment. Studies unanimously agree that traders face constraints in credit access, storage facilities and transportation (Santorum and Tibaijuka, 1992). Mwamba (1995) also showed transportation, storage and credit as the major problems faced by small scale maize traders.

Amani and Kapunda (1989) reported that almost 73% of traders interviewed in towns of Morogoro, Iringa and Dodoma obtained at least part of their initial capital from mutual lending and credit in kind. Credit in kind was more often given by farmers to traders, i.e. farmers handed over their produce to traders who returned later to pay the farmers. In contrast private trading in newly liberalized agricultural markets in Eastern and Southern Africa tend to be characterized by very limited credit relationships between market participants (Beynon and Jones, 1992).

The slow pace of private sector development after an initially dynamic response to new opportunities results in seasonal and inter annual prices not being stabilized and segmentation between rural markets tending to remain, although urban markets may be well interrelated with each other (Beynon and Jones, 1992).

Inefficient marketing results in loses. Mwanga Cosmore (1992) revealed an annual loss of 10.5% of the total marketed maize in the district. According to this study, the major causes of loses in maize marketing were: transportation 0.3%; rains 39.2%; theft 35.4%; pests and spillages 1.6%; and moisture migration 23.5 %. These studies have shown the likely problems to be encountered in maize marketing by the small holder farmers which may discourage maize production and ultimately reduce the producers' as well as consumers' welfare.

CHAPTER 3

STUDY METHODOLOGY

3.1 Introduction

This chapter outlines the study design along with the data collection procedures and the methods used in analyzing the data collected. The organization and analysis of the data was done using the Statistical Package for the Social Sciences (SPSS) software.
Chi-square tests cross tabulations and frequencies were the statistical tools used for the analysis.

3.2 Data Collection

Data for this study were obtained from primary sources using a structured questionnaire which was administered to 68 households. Therefore the data for this study were entirely obtained from smallholder farmers.

3.3 Study Area

The study was conducted in Petauke District in the Eastern Province of Zambia. Petauke District was picked for the reason that it is one of the active districts involved in maize production with the actual production done mainly by smallholder farmers.

3.4 Sample size and Sampling Technique

A sample size of 68 households was used instead of the originally planned 80 households. This was because of resource constraints as farmers are sparsely distributed. The sample consisted of small holder farmers engaged in maize production. Individual households were sampled randomly to ensure a good representation of the target population.

3.5 Target Population

The target population consisted of small holder farmers engaged in the production of maize in Petauke District in the Eastern Province of Zambia.

3.6 Data Analysis

The data collected were analyzed using the Statistical Package for Social Sciences (SPSS) software. Chi-square tests, cross tabulations as well as frequencies were generated and used to analyze data.

CHAPTER 4

STUDY FINDINGS AND DISCUSSION

4.1. Introduction

This chapter looks at the findings and discussions of the study. In terms demographic characteristics of the respondents, main markets, marketing problems, relationships between household head characteristics and susceptibility to marketing problems

4.1.1 Demographic Characteristics of the Household Head

This section presents the general characteristics of the household heads that were interviewed in this study. Out of the 68 households that were interviewed, 58.8% were male headed while the rest were female headed. Majority of the interviewed respondents were married (44.2%). Most of the interviewed household heads were aged above 50 years (38.3%). In terms of education level, most of the household heads (80.9%) had only attended primary education, 7.4% had attended secondary education, and 11.7% had not attended any form of formal education (see Table 1 that follows).

Table 1: Demographic Characteristics of the Household Head

Details	Number (N)	Percent (%)
Gender		
Male	40	58.8
Female	28	41.2
Total	68	100.0
Age		
20-30	16	23.5
31-40	16	23.5
41-50	10	14.7
Above 50	26	38.3
Total	68	100.0
Marital Status		
Single	7	10.3
Married	30	44.2
Widowed	19	27.9
Divorced	12	17.6
Total	68	100.0
Education Level		
None	55	80.9
Primary	5	7.4
Secondary	8	11.7
Total	68	100.0

Source: Own Survey (2007)

4.2 Main Markets

The different markets to which small holder farmers sold maize were: the FRA; Local markets; Cooperatives; Businesspersons; and Breweries. The numbers of small holder farmers who sold to each of these markets are shown in Table 2 that follows.

Table 2: Main Markets

	Number (N)	Percent (%)
FRA	8	11.8
Local Market	7	10.3
Cooperative	9	13.2
Businesspersons	34	50.0
Breweries	10	14.7
Total	68	100.0

Source: Own Survey (2007).

From the results, 50% of total smallholder farmers interviewed sold to the Businesspersons, 10.3% sold their maize in the local markets, 13.2% sold to cooperatives, 11.8% sold to the FRA and 14.7% sold to breweries. There were no respondents who sold to millers. The Cooperatives sold to the FRA in turn. Thus, in essence, 25% sold to the FRA. Businesspersons were the major buyers of maize from the smallholder farmers followed by the government through FRA.

4.3 Marketing Problems

Respondents were asked to identify the maize marketing problems they faced ranging from low prices, transportation, unstable markets and availability of packaging materials. Majority of the respondents (79%) cited transportation as the biggest problem that they faced, seconded by lack of packaging materials (12%), followed by lack of stable markets (6.9%). Low prices were the least cited marketing problem with only 1.7% of respondents citing as a marketing problem. (See Table 3 below).

Table 3: Marketing Problems

	Number (N)	Percent (%)
Low Prices	1	1.7
Unstable Markets	4	6.9
Transportation	46	79.3
Packaging Materials	7	12.1
Total	58	100.0

Source: Own Survey (2007).

4.4 Relating Household Characteristics to Small Holder Farmer Susceptibility to Marketing Problems.

The characteristics of the small holder farmers facing marketing problems were analyzed to reveal those most susceptible to marketing problems. Social characteristics analyzed included: Household head's Age; Sex; Marital status; and Education level. The level of farm income was used as an economic indicator. Frequencies cross tabulations and Chi-square tests were employed to find out small holder farmers by social and economic characteristics most susceptible to marketing problems.

4.4.1 Age of Household Head by Susceptibility to Marketing

Age was thought to be associated with farmer susceptibility to marketing problems. The average age of the small holder farmer was 46 years. Of the total respondents interviewed, 23.5% were in the range 20-30 years of age, 23.5% were in the range 31-40 years of age, 14.7% were in the range 41-50 years of age, and the rest (38.3%) were above 50 years of age. Thus, smaller holder farmers are in the above 50 years age category than in any other age group. The cross tabulation and Chi-square tests results to find out whether age of household head is associated with susceptibility to marketing problems are given in the following table.

Table 4: Age of Household Head by Susceptibility to Marketing

Age	Marketing Problems				Total (%)
	Low Prices (%)	Unstable Markets (%)	Transportation (%)	Packaging Materials (%)	
20-30	1.7	0	17.2	1.7	20.7
31-40	0	1.7	15.5	5.2	22.4
41-50	0	1.7	12.1	1.7	15.5
Above 50	0	3.4	34.5	3.4	41.4
Total	1.7	6.8	79.3	12.0	100.0

Source: Own Survey (2007).

At 95% confidence interval, these results were insignificant (p-value=0.643). This means there is no correlation between age of the respondent and susceptibility to marketing problems.

4.4.2 Relationship between Sex of Household Head and Susceptibility to Marketing Problems

It was hypothesized that sex of household head was correlated to susceptibility to marketing problems. Men and women usually differ in their proneness to problems and in their ability to overcome them. Of the total small holder farmers that encountered problems in marketing maize, about 95% were males and the rest were females. The results of a cross tabulation and Chi-square test are given in the following table.

Table 5: Sex of Household Head by Susceptibility to Marketing Problems

Sex	Marketing problems				Total (%)
	Low Prices (%)	Unstable Markets (%)	Transportation (%)	Packaging Materials (%)	
Male	1.7	7.0	75.9	10.3	94.9
Female	0.0	0.0	3.4	1.7	5.1
Total	1.7	7.0	79.3	12.0	100.0

Source: Own Survey (2007).

The results of the Chi-square show that the sex of respondent is not related to the susceptibility of small holder farmer to marketing problems (p-value=0.677).Therefore, at 5% level of significance, it can be concluded that there is no relationship between sex of Household Head and Susceptibility to Marketing Problems

4.4.3 Relationship between Marital Status of Household Head and Susceptibility to Marketing Problems

Couples are more likely to be in a better position to deal with potential or actual problems. Married people may pool their resources together and combine efforts to prevent potential problems. About 88% of small holder farmers who encountered marketing problems were married and 12% were a combination of widows and widowers. The results are presented in Table 6.

Table 6: Marital Status by Susceptibility to Marketing Problems

Marital status	Marketing problems				Total (%)
	Low Prices (%)	Unstable Markets (%)	Transportation (%)	Packaging Materials (%)	
Married	1.7	7.0	69.0	10.3	88.0
widowed	0.0	0.0	10.3	1.7	12.0
Total	1.7	7.0	79.3	12.0	100.0

Source: Own Survey (2007).

Marital status is not correlated with susceptibility to marketing problems. This is evidenced by a P-Value=0.859 which is insignificant at 95% confidence level. Thus, marital status of the household head is not related to the household head's susceptibility to marketing problems.

4.4.4 Relationship between Education Level of Household Head to Susceptibility to Marketing Problems

This was done to determine whether the level of education of the respondent was related to farmer susceptibility to marketing problems. The following table shows the relationship between Education Level of Household Head to Susceptibility to Marketing Problems

Table7: Education Level by Susceptibility to Marketing Problems

Education Level	Marketing problems				Total
	Low Prices	Unstable Markets	Transportation	Packaging Materials	
None (%)	0.0	0.0	6.9	1.7	8.6
Primary (%)	1.7	6.9	63.8	10.3	82.8
Secondary (%)	0.0	0.0	8.6	0.0	8.6
Total (%)	1.7	6.9	79.3	12.0	100.0

Source: Own Survey (2007).

At 95% confidence level, these results are insignificant (p-value = 0.899).This means that there is no correlation between the education level of the respondent and his/her susceptibility to marketing problems.

4.4.5 Relating Farm Income Level to Susceptibility to Marketing Problems

Households that have high farm incomes tend to have considerably more economic leverage than households with low farm incomes. Higher farm incomes may make it possible for small holder farmer to acquire necessary assets to facilitate marketing. The results of cross tabulation between level of income and susceptibility to marketing problems and subsequent Chi-squire are presented in the following table.

Table 8: Farm Income by Marketing Problems

Farm Income	Marketing problems				Total
	Low Prices (%)	Unstable Markets (%)	Transportation Problem (%)	Packaging Materials (%)	
<K100000	0.0	1.7	72.4	8.6	82.8
K1000,000-K2000,000	1.7	5.2	6.9	3.4	17.2
Total	1.7	6.9	79.1	12.0	100.0

Source: Own Survey (2007).

The results show that 79% of small holder farmers experienced transportation problem with 72% coming from lower income group and 7% were from the higher income group (i.e. K1000, 000-K1000, 000). It was hypothesized that farm income is related to susceptibility of respondent to marketing problems. At 95% confidence level, the results were significant (p-value=0.001). This implies that the level of farm income is related to the susceptibility of respondent to marketing problems.

4.5 Reasons for Selling Maize to Particular Markets.

The reasons that the respondents gave for selling maize to where they sold were: good price; early buying by buyers of the commodity i.e. buyers came early in the market; early payments to farmers; closeness of market to the farmer; availability of market; and membership to farmer cooperative (see Table below).

Table 9: Reasons for Selling Maize to Particular Markets

Reason for Selling to it	Preferred Market					Total
	FRA	Local Market	Cooperative	Business-Persons	Breweries	
Price (%)	9.0	9.0	0.0	11.9	0.0	29.9
Early Buying (%)	0.0	0.0	0.0	3.0	15.0	18.0
Early payment (%)	0.0	1.5	0.0	4.5	0.0	6.0
Closeness to Market (%)	0.0	0.0	0.0	16.4	0.0	16.4
Market Availability (%)	3.0	0.0	0.0	13.4	0.0	16.4
Cooperative Member (%)	0.0	0.0	13.4	0.0	0.0	13.4
Total	12.0	10.4	13.4	49.2	15.0	100.0

Source: Own Survey (2007).

The results from the above table show that price was the major reason why smallholder farmers sold their maize to different markets. Of the interviewed respondents, 29.9% cited good price as the reason why they sold maize to where they sold.

The other reasons were: Early Payments (6.0%), Early buying of maize by market participants (18.0%); Proximity of market to farmers (16.4%); availability of market (16.4%); and membership to cooperative (13.4%). Most farmers (49.2%) sold their maize to Business Persons. The reasons that were given that led them to sell most of their maize to the Business Persons were: because they were readily available at the time the farmers had a need to sell their maize.

CHAPTER 5

CONCLUSIONS AND RECOMMENDATIONS

5.1. Introduction

This chapter considers the conclusions made based on the study findings and recommendations that would help solve the main marketing problems facing maize small holder farmers.

5.2 Conclusions

The markets that were available to the smallholder maize producer include: the government through FRA; the Local Markets; farmer Cooperatives; Businesspersons; and Breweries. It can be concluded that the government is providing an important market for the small holder farmers.

Problems that small holder framers are facing in marketing their maize were found to be low prices, unstable markets, transportation, and lack of packaging materials. The outstanding of these marketing problems is transportation. This may be due to the fact that small holder farmers are sparsely distributed and far away from near markets.

It was discovered that there was correlation between farm income of the small holder farmer and his /her susceptibility to marketing problems. Small holder farmers with low farm incomes are more likely to experience marketing problems than those with high farm incomes. This could be because high farm incomes may make it possible for the small holder farmer to acquire assets such as oxen that may facilitate smooth marketing.

There was variety in the markets to which the smallholder farmer sold maize. The reasons that were given by respondents for preferring one market over another were: price; early buying of maize by market participants; early payments to the farmers; the closeness of the market to the farmers; the availability of market in areas where markets are not fully developed; and membership to a Farmer Cooperative. The major reason given by smallholder farmers for selling maize to particular markets was price.

5.3 Recommendations

There is need for farmers to recognize the importance of storing maize and sell later in the season when the prices are high in the market. Education of small holder farmers in carrying out effective marketing decisions that can safeguard their interests is important. Government should encourage farmers to strengthen the cooperative movements in order to be able to have access to a better mode of transport through mobilization of their resources. I recommend that further study be undertaken to determine factors affecting smallholder farmer's market choice.

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APPENDICES

APPENDIX 1: SURVEY QUESTIONNAIRE

Household Head Characteristics

1 . Age of head of household_____

2 Sex of head of household   (i) Male   (ii) Female

3. Marital status   (i) Single   (ii)Married   (iii) Divorced   (iv) Widowed

4. Educational level   (i) No formal education   (ii) Primary   (iii) Secondary
    (iv) Tertiary

Household Characteristics

5. How many hectares of farmland do you have? ....

6. How many 50 Kg maize bags did you produce this
    year...

7. Of these, how many did you sell?...

8. How much farm income did you make this year?..

9. How much off-farm income did you make this year? ....

Available Markets

10. Where did you sell your maize this year?

     (i) FRA   (ii) Local market   (iii) Cooperative   (iv) Millers

     (v) Businesspersons

     (vi) Other (specify) _____

11. What was your reason for selling to it/them?

(i) Offered good price   (ii) Bought early   (iii) Early payments   (iv) Closeness

(v) Offered market   (vi) Other (specify)_____

Marketing Problems

12. Does this household face any marketing problems? (i) Yes   (ii) No

13. If yes to question number 15, what major problem did you face this marketing season?

(i) Low Prices   (ii) Unstable markets

(iii) Transportation   (iv) Lack of Packaging Materials

(v) Other (specify) ....

THANKYOU FOR YOUR COOPERATION