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Policy and Agricultural Development in Nigeria: Challenges and Prospects

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MARKET PARTICIPATION OF SMALL-SCALE MAIZE FARMERS IN OSUN STATE: AN APPLICACATION OF HOUSEHOLD COMMERCIALISATION INDEX (HCI)

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ABSTRACT

The study was carried out in Osun state of Nigeria. It investigated the levels of market participation of small-scale maize farmers. Household Commercialisation Index (HCI) was used to measure the proportion of maize offered to the market for sale. Results show that average Household Commercialization Index (HCI) was 0.5, meaning that respondents sold 50% of their total output. 52.42% of the respondents sold between 41-50% of their total output while only 3.52% of the respondents sold nearly all of their produce (91-100%). 21.15% sold between 51- 60% of their produce. Also all the farmers participated in at least one market but at varying levels. The analysis revealed that the number of farmers keep reducing as the percentage of output sold increases. They also sell mainly at the farm gate and in rural markets. There is positive and significant relationship between quantity of maize sold and total maize produced (1%), level of education (10%) and membership of farming association (5%) level of significance. Although a few variables in the analysis are correlated, the strength of the correlations is weak (partial correlation coefficients are smaller than 0.5) and significant at p<0.10. On the basis of the findings, the study recommends that Farmers be educated generally and encourage them to belong to farmers association. Policies intended to promote maize market participation especially in the study area should focus on greater level of maize market integration by reviewing the institutional environment of maize marketing system.

Keywords: Market Participation, Maize Farmers, Marketable surplus and commercialisation

INTRODUCTION

The question of how to increase the market participation of smallholder is a major challenge facing many government and non-governmental organizations in developing countries. Holloway and Ehui (2002) opined that inability to access markets is a major constraint to improving the welfare of smallholders. Enhancing the ability of poor smallholder farmers to reach the markets, and actively engage them, is one of the most pressing development challenges. In Sub- Sahara Africa, Asia and South and Central America, small scale agriculture remains the major source of rural employment but, confronted with changes in world trade and falling commodity prices, its variability has been questioned (Junior, 2006). Although, previous studies attributed the low market participation to different challenges, there is seldom any framework for ranking the impediment at village level and as a result, privatization and adaptation of intervention becomes difficult. Consequently, there is duplication of efforts and resource wastage, leading to a rise in food insecurity and widespread poverty (Balint, 2003).

Improvements in market participation are necessary to link smallholder farmers to markets in order to expand for agricultural products as well as set opportunities for income generation (Pingali, 1997). Enhancing the ability of smallholder, resource- poor farmers to access market opportunities and diversify their links with markets is one of the most pressing developmental challenges facing both governments and non-governmental organizations (IFAD, 2002). Market orientation enhances consumers' purchasing power for food, while enabling re–allocation of household income by producers to high value non – food agribusiness sectors and off farm enterprises (Davis, 2006). The rationale for enhancing

participation in commercial agriculture also stem from the potentials to accelerate attainment of the Millennium Development goal(MDG) on food security and poverty reduction through utilization of untapped opportunities in commodity value chains(John Omitt et al, 2007). Producing for the markets provide a number of benefits and advantages through income generation and rural employment and also commercialization of smallholder agriculture can make the previously disadvantaged farmers to become a significant part of the economic base of the rural economies (Balint 2003).

Many authors emphasized the need to design agricultural policies that could promote benefits to smallholders. Laper, et al 2003), stressed that there is a need for appropriate policies that could precipitate the entry of farmers into the markets and hence, increase market participation. For example, policies such as price supports are often biased towards large producers because such policies often favour physically and financially capital-intensive production systems. In addition, smallholders are often disadvantaged due to poor access to credit assistance and these impediments often give rise to low rates of adoption of improved technologies that potentially increase productivity   .

In the past, studies on marketing in Nigeria have been particularly focused on market prices and margin and also on the organization and conduct of food marketing systems. This study distinguishes itself from the past studies in Nigeria because it will go beyond the market place to identifying the market constraints the farmers are facing and also to integrate them into the markets so as to enable them participate more in the markets. There are transaction costs barriers to participation in the market that can only be overcome by institutional innovations. Research is therefore needed to identify policy option that will stimulate the transition of smallholder farmers to become commercial operators. Thus, this study aims at examining the levels of market participation and proposing ways to remove constraints that inhibit participation in agricultural markets in the study area. Studies on agricultural market participation had been conducted in South Africa, Romania, Mozambique, Kenya etc but there is a dearth of such studies in Nigeria. This study is thus embarked upon to add to the scanty literature on market participation in Nigeria.

METHODOLOGY
Area of Study
The study was carried out in Osun State, Nigeria. Osun State covers an area of approximately 14,875 square kilometres, lies between longitude 04 00E and 05 05″ and latitude 05 558″ and 08 07″. The estimated population for year 2008, based on the 2006 census is therefore 3.1 million (NPC, 2006). It is bounded by Ogun, Kwara, Oyo and Ondo States in the South, North, West and East respectively. Osun state is predominantly an agrarian society with about 70% of the population engaged directly or indirectly in agriculture- related occupations.

There are more than 200 towns, villages and other settlements in the State. The State is divided into three senatorial districts namely, Osun I, Osun II and Osun III (Ife/Ijesa). Each of these districts is further divided into two zones. For administrative convenience, the State is divided into six agricultural/ecological zones by the Osun state Agricultural Development Project (ADP).
Sources of Data

The data for this study were obtained mainly from primary and secondary sources. Data on household and respondents' characteristics were collected with the aid of structured questionnaires and interview schedules. Personal observation was further used to gather facts relevant to the study. Data were collected on the general living standard of the people which included household characteristics, household physical assets, social capital, transaction cost etc.

Sampling Procedure

A multi- stage sampling technique was employed in the selection of the respondents for this study. The first stage is the purposive selection of ten Local Government Areas from the six agricultural development zones in the state. The purposive sampling was adopted based on the intensity of maize production and markets, since the target was the maize farmers. The second stage involved random selection of six villages from each Local Government Areas (LGAs). The third stage was random selection of 24 farmers from each village selected. The same number of questionnaire was distributed to each village since the difference in their population is insignificant. In all, a total of 240 respondents were used for the study but only two hundred and twenty seven were valid for analysis.

Analytical Techniques

A combination of analytical tools was employed to analyze the objectives of the study. These include descriptive statistics, Household Commercialization Index (HCI) and Correlation Coefficient. Descriptive statistics such as frequency distribution table, percentages, means, standard deviation, bar chart and pie chart were used to analyze respondents' socio-economic characteristics and Household Commercialization Index measures their level of market participation and correlation.

CONCEPTUAL FRAME WORK

Market participation is the integration of subsistence farmers into the inputs and output markets of agricultural products, with the aim of increasing their income level thereby reducing poverty (Holloway and Ehui, 2002). The concept of market orientation, commercialization or participation refers to the percentage of marketed output from total farm production. The research on market participation has been scanty, but the major issues that abound in the literatures are: the study of market participation based on whether farmers make market participation decision and the volumes of sales simultaneously or sequentially; the institutional factors that affects market participation and the effect of government policies on market participation decisions. Scholars like Goetz 1992, Lapar et al 2003, Heltberg and Tarp (2001) and Holloway et al 2005 studied market participation based on the assumption that market participation and volume choices are made sequentially or simultaneously. That is, farmers initially decide whether or not to participate in the market, and then decide on the volume purchased or sold, conditional on having chosen market participation; farmers make market participation decision simultaneously with the decision as to volume purchased or sold.

Heltberg and Tarp (2001) in their study modelled market participation behaviour as a two step decision process. The first one is for the household to decide whether or not to participate in the market and secondly establish how much to sell. They found out that transaction cost, risk and other factors create barriers or thresholds to participate in crop markets. Goetz (1992) used a Probit model of households' discrete decision to participate in the market (either as buyers or as sellers without distinction) followed by a second stage switching regression model of the continuous extent of market participation decision. Result suggest that options other than relative output price changes are available for stimulating market surpluses in Sub Sahara African. In particular, better information significantly raises the probability of market participation of selling households, while access to coarse grain processing technology significantly raises quantities sold by sellers.

These extant articles on household marketing behaviour in developing countries thus began from fundamentally different assumptions of the nature of households' market participation choices. Goetz (1992) and Holloway et al 2005 explicitly assume sequential choices while Key et al (2000) by contrast, implicitly modelled the household as making the discrete

market participation choices simultaneously with the continuous decision as to the volume purchased or sold. Studies by Holloway et al 2005, Makhura 2001, Staal et al (1997) and Strasberg et al (1999) emphasized on the effect of institutional factors on market participation and hence sales. In the opinion of these authors, the main institutional factors influencing market participation is transaction cost. The transaction costs emanated from a number of sources. In the first place, small-scale farmers are located in remote areas far away from service providers and major consumers of farm products. The distance to the market, together with the poor infrastructure, poor access to assets and information is manifested in high exchange costs. In order to participate in the market, farmers must determine who it is that one wishes to deal with, what the terms are, they must conduct negotiations leading to a bargain, draw up a contract, and undertake the inspection needed to make sure that the terms of the contract are being observed. In many instances, market participation declines as a result of inhibitive transaction costs.

According to Staal et al (1997) a low proportion of products exchanged in the market reflect the existence of high transaction costs.   Strasberg et al (1999) found that price and distance to a paved road (an indication of travel costs) both have a significant negative effect on fertilizer use, ceteris paribus. On the other hand, Zaibet and Dunn (1998) reflected on internal (endogenous) transaction costs, which involve intra-household factors such as the number of family members and the dependency ratio. These are likely to reduce market participation since capital embodied in market linkages is not individual specific but can be shared among immediate relatives. In the absence of formal institutions that regulate such transactions, the farmer has to face costs to obtain about these different agents, to contract, to monitor, and to enforce the agreements. Such uncertainty is reflected in the utility maximization problem of the household and can be likened to an individual's willingness to pay for participation in the market.

Household Commercialization Index

Different indices have been used to measure the level of commercialization. Various authors have used different yardsticks in measuring the level of agricultural commercialization at Household level. Randela et al, (2008), Govereh et al, (1999), and Strasberg et al, (1999) used a Household Commercialization Index (HCI), which is defined as 'the 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 sub sector, which could be more important than crops in some farming systems. Matungul et al, (2001) used a marketing methods index (MMI) as a dependent variable reflecting the level of market participation. Recently, Gabre-Madhin et al, (2007) used four approaches to measure the level of household commercialization. They include sales-to-output and sales-to-income ratios, net and absolute market positions (either as a net buyer, net seller or autarkic/self-sufficiency household,) and income diversification or levels of specialization in agricultural production. This study employed the use of household commercialization index (HCI), to determine the level of market participation since all the respondents participate in one market or the other.

Household Commercialization Index (HCI) is given as

$$\frac{\text{Gross value of crop sold}}{\text{Gross value of all crop produced}}$$

RESULT

Socio-economic Characteristics of the Farmers

Comparing Years of Farming and Marketing Experience - Comparing years of experience in farming and marketing, we can conclude that farmers did not start marketing their produce immediately which could be due to low productivity or lack of necessary information. 23.79percent had at least 1-10 years of farming experience as against 13.21percent of

marketing experience, 42.93% had 11-20years of farming experience as against 38.31% of marketing experience, while 26.17% had 21-30 years of farming experience as against 34.35% of marketing experience. The chart below (figure 1) shows that as the year of experience increases, older farmers tend to depend on market to compliment their inability to produce more as this can be as a result of the already aged members of the farming households in the study area.
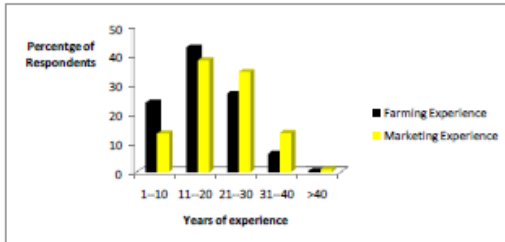

Figure 1: Comparing years of farming and marketing experience

Distribution of the respondents by motive of farming
Figure 2 shows a typical Nigerian farming system where majority of the farmers are into subsistence production and will only go to market to sell the excess after consumption. 96.47% of the respondents produce for both consumption and marketing while only 3.53% claimed to produce solely for the market which is relatively low in achieving the commercialization of agricultural sector. Subsistence farming according to Bruentrup and Heidhues (2002) is sometimes the only means to survive during difficult periods, while it also offers employment when off-farm employment opportunities are scarce (Beckmann and Pavel 2002).
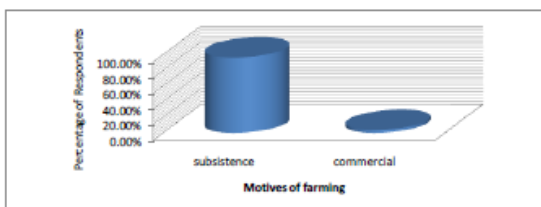

Figure 2: Distribution of respondents by motive of farming.
This is the reason why majority of the farmers are into subsistence farming. However, this orientation must change if we are to achieve the objective of commercializing the agricultural sector by providing opportunities and necessary enabling environment for profitable commercial agriculture.

Distribution of the respondents based on the Market option used

These are the various points of sale or sale location that are available to the farmers. The farmers can either sell to consumers or traders. The available market locations are farm gate, house and markets (village and city). The result of the analysis shows that 48.91% of the respondents sell their produce at the farm gate while only 14.51% uses city market (figure 3). The absence of more diversified and organized market options impact negatively on the income from sales of maize. Farmers should be linked to more diversified market options which would give them access to ready and viable markets, for their produce which is in line with Balint, 2005 that the "average value sold per farmer increases as market options change from consumers to traders, to wholesalers and finally to cooperatives and processors."
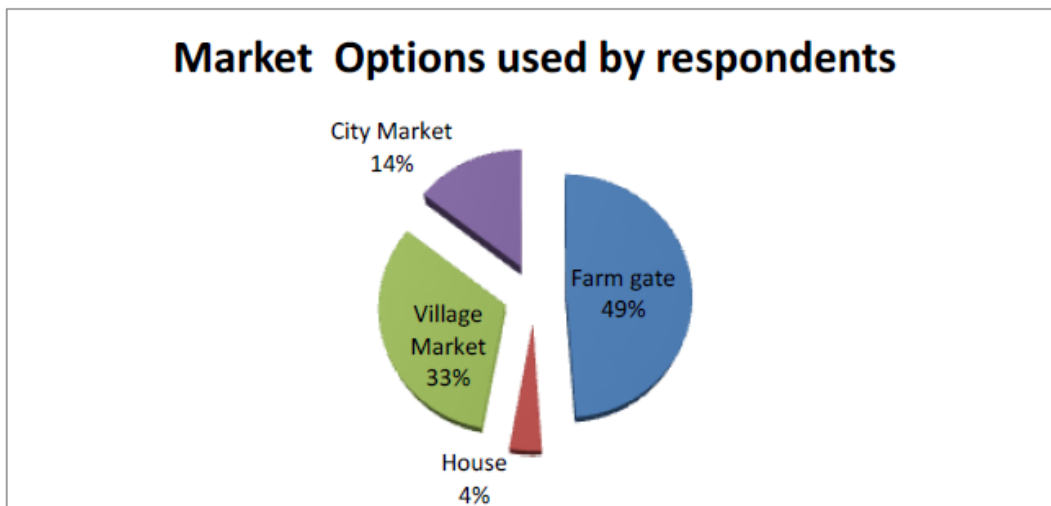

Figure 3: Distribution of the respondents based on   Market option used.

Maize Utilization and Distribution Pattern among the Respondents
Figure 4 below shows that at 54% of the total maize produced is sold either on the farm or at different markets while larger parts of the remaining quantity(43%) is stored, either to be sold later, consumed, used as planting material for the next season or used as gift. This is to say that majority the farmers are subsistent farmers and they should be encouraged to change to commercial farming as this will lead to increase in their market participation level. This is in line with the findings of John Omitt et al, 2009 in Kenya showing that, an average of 55% and 50%of produce is sold by farmers in semi-urban and rural areas respectively.

Constraints faced by the respondents in the study area.
There were a lot of factors militating against the farmers to actively participate in various markets at the maximum levels in the study area. 32.61percent of the respondents faced the problem of high cost of transportation while 21.61percent complained of lack of credit facilities which is the major constrained facing the farmers in Sub Sahara Africa. 25.98percent of the respondents faced the problem of bad road network from their farms to the various markets. 14 percent of the farmers are faced the problem of low productivity.
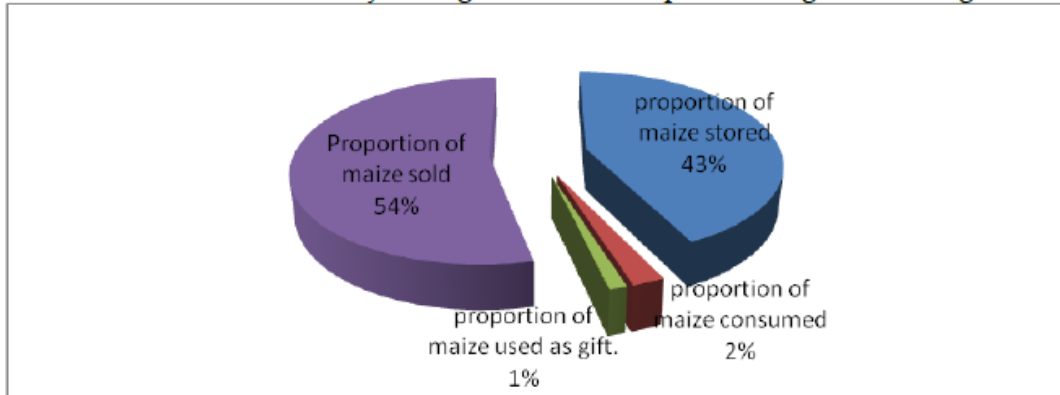
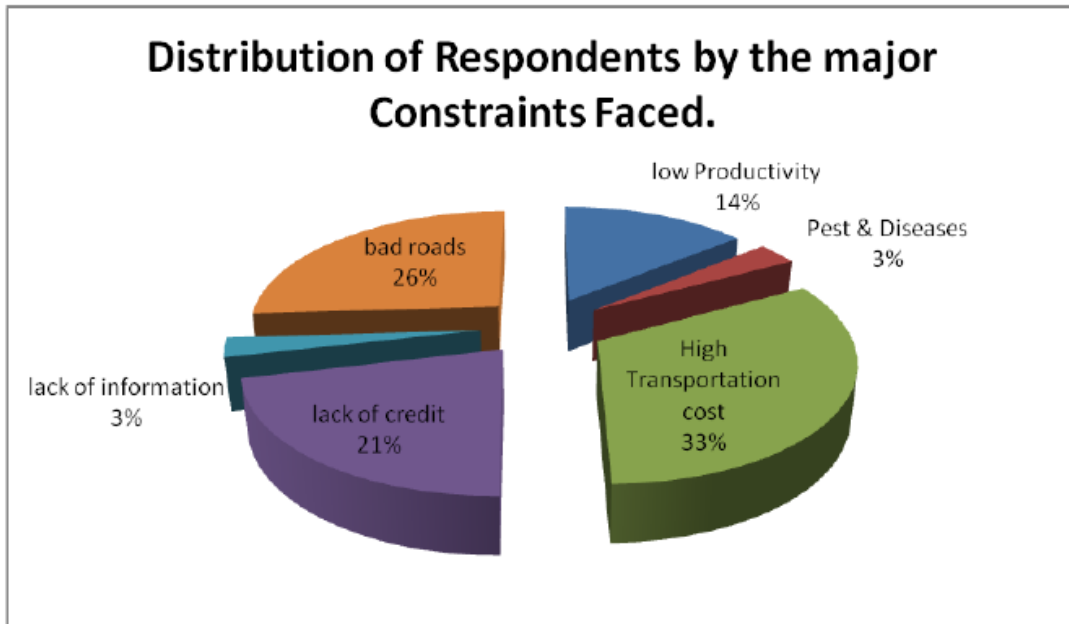Figure 4: Maize Utilization and Distribution Pattern among the Respondents

Figure 5: Distribution of Respondents by Constraints faced in the study area.

All these problems cumulated in poor market participation as revealed by the study. The possible solution suggested by the farmers are provision and rehabilitation of rural roads, availability of credit facilities with or no collateral, provision of storage facilities, and provision of inputs such as land, chemicals and fertilizer.

Level of market participation of the respondents

Table 1 shows that average Household Commercialization Index (HCI) was 0.5. This means that respondents sold 50% of their total output. 52.42% of the respondents sold between 41-50% of their total output while only 3.52% of the respondents sold nearly all of their produce (91-100%). 21.15% sold between 51- 60% of their produce. The result revealed that all the farmers participated in at least one market but at varying levels.

This analysis revealed that the number of farmers keep reducing as the percentage of output sold increases. They also sell mainly at the farm gate and in rural markets. Only a small proportion of the total output is taken to the more lucrative (but distant) urban markets. These farmers do not participate effectively in the urban markets, which offer excellent opportunities for increasing their farm incomes, extracting themselves from the poverty and squalor in which they currently live.

Table1. Frequency Distribution of respondents based on proportion of maize sold (used as the commercialization index).

Proportion of maize sold(Kg)	Frequency	Percentage
0.11-0.20	1	0.44
0.21-0.30	4	1.76
0.31-0.40	4	1.76
0.41-0.50	119	52.42
0.51-0.60	48	21.15
0.61-0.70	24	10.57
0.71-0.80	17	7.49
0.81-0.90	2	0.88
0.91-1.0	8	3.52
Total	227	100

Source: Author's Computation, 2010.

The study also revealed that there are at least three other uses farmers can put their produce into. Apart from going to the market, they can store it and sell it later or use it for next planting, eat it or give it out as gift. Heltberg and Tarp (2002) found that maize yields have the greatest marginal impact on market participation, for both poor and non-poor households, with more than twice as great as impact as the next most important factor (access to transport). Most farmers in rural areas produce low volumes of relatively low-value and less perishable marketed surpluses than their semi-urban counterparts.

Table 2: Correlation between quantity produced and quantity sold

	Total produced	Quantity sold
Total produced	1.0	
Quantity sold	0.94	1.0

The likelihood of farmers to participate in the market increases as much as they produce. This shows that the more the farmers produce, the more they will go to the market to sell if the size of the household remains the same. Farmers should therefore be encouraged to produce more so as to have more to sell as it is likely to increase their income and standard of living through participation in the markets.

Table 3. Partial correlation between Quantity of maize sold and other variables.

Variables	Correlation	Significant Level
Quantity of maize produced	0.1730	0.012***
Age	0.0701	0.312
Years of education	0.0400	0.088*
Sex of the head	0.1179	0.054
Marital status	-0.0902	0.193
Household size	-0.243	0.726
Farming experience	-0.0684	0.324
Ownership of cultivating equipments	0.0931	0.179
Total land size	-0.0066	0.925
Access to non farm income	0.0305	0.661
Farmers association	0.1353	0.050**
Transportation cost	-0.0355	0.609

Source: Computer Analysis 2010.
*** Significant at 1% level, ** Significant at 5% level, * Significant at 10% level

Table 3 presents the partial correlation between quantity of maize sold and some selected variables. Although a few variables in the analysis are correlated, the strength of the correlations is weak (partial correlation coefficients are smaller than 0.5) and significant at

$p < 0.10$. These imply that there is association between the variables, but there is no evidence for multicollinearity; which occurs if partial correlation coefficients are greater than 0.5 and are significant. The partial correlation shows a positively significant relationship (1%) between quantity of maize sold and total maize produced. This means an increase in quantity of maize produced leads to increased level of market participation. A positive and significant relationship (10%) exists between the quantity of maize sold and years of education. The possible explanation for this is that a year increase in years spent in school will lead to a unit increase in the quantity of maize sold. Education is an important tool in poverty reduction. There is also a direct and significant relationship (5%) between quantity of maize sold and being a member of farmers' association. Farmers enjoy several benefits such as obtaining information that can increase their level of market participation.

CONCLUSION AND RECOMMENDATIONS

It can be concluded from the result of the study that as the total quantity of maize produced increases, volume of maize offered for sale, farming experience and ability to participate in the market also increases. The absence of more diversified and organized market options impact negatively on the income of the farmers from sales of maize. The partial correlation shows a positively significant relationship (1%) between quantity of maize sold and total maize produced. This means an increase in quantity of maize produced leads to increased level of market participation. Majority of the farmers are still into subsistence farming as they will only go to market to sell the excess after consuming enough by the households. They preferred selling at the farm gate or village market due to lack of good roads and information which resulted into high transportation cost and lower farmers' return as a result of middlemen's exploitation. The major problems faced by the respondents in the study area were problem of high cost of transportation; lack of credit facilities which is the major constrained facing the farmers in Sub-Sahara Africa and problem of bad road network from their farms to the various markets. It is therefore recommended that:

1. Introduction of adequate technologies (for example, processing, storage and transport facilities, etc) will enhance the farmers' productivity and marketing potential should be provided as most farmers are still into subsistence farming.
2. Farmers should be educated generally on the need to make their sales at the market rather than on the farms. This can be achieved by deploying extension agents to the area in order to educate farmers on the subject matter.
3. Policies intended to promote maize market participation especially in the study area should focus on greater level of maize market integration by reviewing the institutional environment of maize marketing system.

REFERENCES

Balint, P.K (2003); Land, Labour and Rural Poverty; Essays in Developing Economics, Delhi; Oxford University Press.

Beckmann V and F Pavel (2002); The logic and future of subsistence farming and Direct sales in Transaction Economics. The case of Bulgaria Paper Presented at the 70th EAAE seminar on problems and prospects of Balkan agriculture in a restructuring environment, June 9-11 2000, Thessaloniki Greece.

Bruentrup, D., D., Mather, C.B., Barrett, R. Benfica, D. Abdula, D. Tschirley, and B. Cunguara. (2002). "market participation by rural households in a low-income country: an asset-Based approach applied to Mozambique." Faith and economics 50(fall):64-101.

Bruentrup M, and F Heidhues (2002); Subsistence Agriculture in Development. Its role in the process of Structural change. Discussion Paper N0 1, Institute of Agricultural Economics and Social Sciences in the tropics and subtropics. University of Hohenheim.

Davis J. R (2006); how can the poor benefit from the growing markets for high value agricultural product; research report, Natural Resources Institute Kent. UK

Ehui , M. (2002); Agricultural Industrialisation; Implications for Economic Development and public policy. Journal of Agricultural and Applied Economics. Vol. 27(1) Pp 116-123.

Gabre-Madhin, E., C.B. Barrett and P. Dorosh (2002), "Technological Change and Price Effects in Agriculture: Conceptual and Comparative Perspectives," in Ed Bonger, E. Gabre-Madhin and S. Babu, eds., Agriculture Technology Diffusion and Price Policy. Washington: Ethiopian Development Research Institute and the International Food Policy Research Institute.

Goetz S.J (1992). A selectivity model of Household. Food marketing behaviour in Sub-Sahara Africa .America Journal of Agricultural Economics. Vol. 74 (2); 444-452.

Govereh, J., and T.S. Jayne. 1999. "Effects of Cash Crop Production on Food Crop Productivity in Zimbabwe: Synergies or Trade-Offs? MSU International Development Working Paper No.74, Department of Agricultural Economics, Michigan State University East Lansing, Michigan.

Heltberg, R., and Tarp F. (2001). "Agricultural Supply Response and Poverty in Mozambique."Discussion paper 2001/114, World Institute for Development Economics Research (WIDER), United Nations University.

Holloway, G., Barrett C.B and Ehui, S ;(2005); Bayesian estimation of the Double Hurdle model in the presence of fixed cost, Journal of International Trade and development. Vol. 1 (1) 17-28.

Holloway, G, Delgado, C, Staal, and Ehui, S (2000); Agro-industrialization through institutional Innovation. Transaction costs, Cooperatives and Milk market Development in the East African Highlands. Agricultural Economics. Vol. 23 Pp 278-288.

IFAD (2002); International fund for Agricultural Development 2001. Rural Poverty report 2002. The challenges of ending rural poverty Rome, Italy (IFAD). www.ifad.org/poverty.index.htm

Junior R.D (2006); How can the poor benefit from the growing markets for high value agricultural product, Research report. Natural Resources institute Kent. U.K.

Key. N.E, Sadoulet and Dejanvry (2000). Transaction cost and Agricultural Household supply response. American Journal of Agricultural Economics. 82(2) 240-359.

Lapar, ML, Holloway, G & Ehui, S, (2003). Policy options promoting market participation among smallholder livestock producers: A case study from the Philippines. Food Policy 28, 187– 211.

Makhura, M.T (2001) Transaction costs and Smallholder participation in then Maize market in the Northern Province of the South Africa. International Food Policy Research Institute, Washington D.C, USA.

_____ (1994); Theoretical and Econometric Model of commercialization Behaviour of Households in the developing area of South Africa. Unpublished M.Sc thesis, state college; Pennsylvania State University.

Matungal, P.M., Lyne, M. C. and Ortmann, G. F. (2001).Transaction costs and crop marketing in the communal areas of Impendle and Swayimana, KwaZulu Natal. Development Southern Africa 18(3); 347-363.

N.P.C. (2006) National Population Commission. 2006 Nigerian Census, Abuja.

Omitt, J.A (2007); Overview of marketing in Agricultural Marketing in Nigeria. Chapter 2 in Agricultural marketing in Nigeria. Edited by O.O Ladipo, Eva-Top communications ventures, SW7, Oke –Bola Ibadan.

Omitt, J,A; Pander J, Ehui S and Place F (2006); Conceptual framework and hypothesis. In Pender J, F Place and Ehui S (Eds). Strategies for sustainable land management in the East Institute. (IFPRI). Washington D.C.

IFPRI, (2009); Determinants of smallholder commercialization of food crops. Theory and evidence from Ethiopia. Discussion Paper No 745, International Food Policy Research Institute (IFPRI). Washington D.C.

Pavel, P. (2002): Agricultural commercialization, rural economy and household livelihood in Malawi.1990-1997. Haward\institute of International Development. (HIID). www.eldis.org/statistics. Assessed 24 Nov 2007

Pingali, P. L. (1997). From subsistence to commercial production systems. The transformation of Asian Agriculture. American journal of Agricultural economics. 79(2). 628-634

Randela, R., Alemu Z.G. and Groenewald J. A. (2008). Factors Enhancing market participation by small scale farmers. Agrekon, Vol. 47 no 4(December 2008).

Staal, S.C, Delgado and C.F Nicholson (1997) -: Smallholder dairying under transaction cost in East African World development. 25 (1997) 779-94.

Strasberg, P.J., T.S. Jayne, T. Yamano, J. Nyoro, D. Karanja, and J. Strauss (1999). "Pathways of Agricultural Commercialization on Food Crop Input Use and Productivity in Kenya." MSU International Development Working Paper No.71, Michigan State University.

Zaibet L.T and Dunn E.G (1998); Land Tenure, Farm Size and Rural Market Participation In developing countries. The case Study of Tunisia Olive Sector. Economic development and Cultural changes