

Original Research Article

Crop Farming Households Market Participation in Major Food Market in Southwestern Agricultural Zone of Nigeria

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Abstract

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The existence of low-cost, well-integrated and efficient rural markets is a key element in agricultural development and welfare economics. In Nigeria as well as other developing countries, many farmers are not linked to the market, they offer little of their produce for sale and this in turn leads to low income from farm activities. There are plethora of studies on food security, food marketing and other food related issues in Nigeria, however, adequate attention has not been given to crop farming households in relation to market participation. A multi-stage sampling technique was employed in the study and primary data was collected using interview guide. Three hundred and forty-two (342) questionnaire were retrieved and found useful for analysis out of four hundred (400) questionnaire administered. The analytical tools used were descriptive statistics and Net Market Index (NMI). The results showed that the average age of crop farmers in the study area was 50.9 ± 16.8 years and the average farm size was 1.8 ± 1.7 ha. Farming experience was 21.0 ± 9.2 years, average household size was 7.0 ± 2.7 , distance to the nearest market was 7.7 ± 9.1 and average farm income per month was ₦10,631.62 \pm 2.3. The result of NMI showed that 57.89% of the crop farming households was net buyers of food in the zone. It was concluded that above half of the crop farming households were net buyers in various food market. Therefore, it is recommended that efforts of the government should be geared towards formulating policies to ensure adequate market linkage by farmers both at the local and national levels.

Keywords: Crop Farmers, Food Market, Market Participation, Net Market Index and Agricultural Zone.

INTRODUCTION

In developing economies, households depend on agriculture-based livelihoods; these households gain their income through the sale of their produce in the markets and use part of the income from their sales to acquire food in markets, except where households produce enough amounts of food commodities themselves to meet their needs (WFP, 2009). Generally, increased incomes from production of crops for sale in the market lead to increased food consumption and improved nutrition (Pender and Alemu, 2007).

Markets play a basic role in economic welfare. Without an effective and responsive markets that effectively bind the increasingly specialized activities of thousands of widely dispersed producers into an integrated national economy, the improvement in productivity of farmers cannot be achieved. Therefore, without good access to markets, a poor household cannot market its produce, obtain inputs, sell labour, obtain credit, learn about or adopt new technologies, insure against risks, or obtain consumption goods at low prices. Also, it cannot use its scarce

resources like land and labour efficiently (Southworth, 1981).

According to Adegeye and Dittoh (1985), market exists whenever buyers and sellers can be in touch with one another. An arrangement can be made on negotiating on a particular product to be bought by a particular person in a location, and then a market has been established. That is why a consumer in one country can buy a product from another country without ever seeing the product. The most important factors for the existence of markets are that the goods to be sold must exist, there must be buyers and sellers and both must agree on a price. Households could participate in a given market both as a seller and buyer of a specific commodity at different times in the same production year (Renkow *et al.*, 2004). Net-seller of food staples is defined as a household that sells more food on the market either in weight or in value than what they buy on the market for a given season or a year. Net-buyer buys more food staples on the market than they sell for a given season or a year. Autarky is a situation whereby the amount of what a household sold either in weight or in value is the same with what it bought in the market for a given season or a year (Renkow *et al.*, 2004). These definitions refer to market positions at any given point in time.

Market could be held daily or weekly and could also be in rural or urban areas and every conceivable commodity, both agricultural and industrial is sold. In Nigeria as well as other developing countries prices are determined by haggling. It is possible to distinguish between types of markets according to agricultural commodities, for instance we have the cattle, sheep and goat markets, foodstuffs market and so on. In Nigeria as well as other developing countries, many farmers are not linked to the market, they offer little of their produce for sale and this in turn leads to low income from farm activities (OECD, 2008).

Households could participate in a given market both as a seller and buyer of a specific commodity at different times in the same production year (Renkow *et al.*, 2004). This might be common under destitute sales to meet cash requirements and repurchase the same crop or animal type later in the season. Under such cases, unless the net position of households in a given market is considered, analysis of one-side market participation alone may lead to erroneous conclusion and policy implications. Therefore, this study examined the net market positions of farming households in major crops such as maize, cassava, yam, and cowpea.

METHODOLOGY

The agricultural Southwestern Nigeria zone comprises of 8 States namely Delta, Edo, Ekiti, Lagos, Ogun, Ondo, Osun, and Oyo States (State Agricultural Zones) (Agricultural Research Council of Nigeria

www.arcnigeria.org); Research Extension Farmers Input Linkage System (REFILS) Workshop Report, 2012). It has the total population of about 27,581,992 (NPC, 2006). The zone is characterized by a typical equatorial climate with distinct dry and wet seasons. The main growing season lasts up to 9 months with two peaks of rainfall in July and September. Rainfall ranges between 1200mm in the northern areas of Ondo, Oyo and Osun States to nearly 2600mm in the coastal areas of Lagos and Ogun States. Average zonal rainfall is 1480mm with monthly temperature of 18 °C during the rainy season and 30 °C during the dry season. The zone also has four distinct sub-ecologies- swamp mangrove forest, moist and dry lowland forest, woodland forest and savanna mosaic (FMA&NR, 1997).

Primary data were used for this study. They were collected through interview guide with the aid of well-structured questionnaire. Data collected included farming households' socioeconomic characteristics, total value of stock at the beginning of season, total value of farm production, expenditure on selected food items, and income of crop farmers. A multi-stage sampling technique was employed in the study. The first stage was the simple random sampling of three (3) States in Southwestern agricultural zone of Nigeria. The States selected were Edo, Ondo and Oyo. The second stage was random sampling of six (6) Local Government Areas (LGAs) from the selected states. Third and last stage was proportionate to size sampling of households in the selected LGAs. In all, 342 households (85.5%) who responded appropriately to the questions asked out of a total number of 400 households interviewed were found useful for analysis.

The analytical tools and models used include descriptive statistics and Net Market Index (NMI). Descriptive statistics such as percentage, frequency and mean, were used to describe the households' socioeconomic characteristics and market participation. As proposed by Gabre-Madhin *et al.* (2007), the net market index is used to determine the net market position either as net buyer, net seller or autarkic/self-sufficient household. The net market index for either net buyer or net seller is given below:

$$\text{a) Net seller} \\ \% \text{ of sale} = \left[\frac{\text{Sales}}{V_{\text{stored at the beginning}} + V_{\text{produced during season}}} \right] \times 100 \dots (1)$$

$$\text{b) Net buyer} \\ \% \text{ of purchase} = \left[\frac{\text{Purchase}}{V_{\text{stored at the beginning}} + V_{\text{produced during season}}} \right] \times 100 \dots (2)$$

Net market index according to Gabre-Madhin *et al.* (2007) is positive difference between equations (1) and

Table 1. Socioeconomic characteristics and mean of variables for economic assessment

Variables	Mean	Std. Deviation	[95% Conf. Interval]	
Age of respondents (years)	50.87	16.815	49.90012	51.84842
Farm size (ha)	1.79	1.7257	1.68356	2.83452
Years in farming (years)	20.99	9.197	20.00423	21.96636
Household head's education (years)	6.67	2.12	4.34262	22.65432
Total income (N)	73,637.13	14.575	7281.749	89140.1
Farm income (N)	10,631.62	2.3159	6076.369	15186.88
Household size (number)	7.0	2.785	6.762269	7.35469
Distance (km)	7.68	9.181	6.634144	8.74531

Source: Data analysis, 2015

Table 2. Distribution of Crop Farmers According to Market Position (Net Buyer or Net Seller)

Crops	Net buyer				Net seller			
	Edo	Ondo	Oyo	SW	Edo	Ondo	Oyo	SW
Maize	62 (45.25)	87 (60.42)	41 (67.21)	190 (55.56)	75 (54.75)	57 (39.58)	20 (32.79)	152 (44.44)
Cassava	63 (45.98)	61 (42.36)	20 (32.79)	144 (42.11)	74 (54.02)	83 (57.64)	41 (67.21)	198 (57.89)
Yam	43 (31.39)	67 (46.53)	43 (70.49)	153 (44.74)	94 (60.61)	77 (53.47)	18 (29.51)	189 (55.26)
Cowpea	99 (72.26)	107 (74.31)	0 (0.00)	206 (60.23)	38 (27.74)	37 (25.69)	0 (0.00)	75 (39.77)
Others	89 (64.96)	77 (53.47)	32 (52.46)	198 (57.89)	48 (35.04)	67 (46.53)	29 (47.54)	144 (42.11)

Source: Data analysis, 2015. (Values in parentheses are percentages).

(2) for net seller and positive difference between equations (2) and (1) for net buyer.

RESULTS AND DISCUSSION

Socioeconomic characteristics and mean variables for economic assessment

Table 1 shows the average values of variables used in the study. The mean age is 50.9 ± 16.8 years, this shows that the farmers are at the peak of their productive years. This agrees with the study conducted by Zeldes (2005) that farmers are getting old and youths are not willing to farm especially in the rural areas. Omotesho *et al.* (2010) in a study reported that agile youth prefer going to the urban centre to look for white collar jobs and eventually if there is none, they take up casual jobs with Lebanese popularly called "Kora" who make use of them as slaves or at worst they venture into riding commercial motorcycle popularly known as "Okada".

The farm size is 1.8 ± 1.7 ha. This shows that food production in Nigeria is still in the hands of small scale farmers. According to Jaleta *et al.* (2009), if farmers go into cultivation of large expanse of land and market structure is functioning well then the producing household will benefit greatly in terms of sales and food consumed.

Years spent in farming shows that the farmers were experienced as years spent on the farm was about 21.0 ± 9.2 years. The total income per annum is ₦73,637.13 ± 14.6 . This implies that returns per annum is low but if market participation as net seller is encouraged, there is likely to be an improvement. The farm income is ₦10,631.62 ± 2.3 . This further shows that if farmers do not engage in off farm work, what they get in a cropping season is nothing to write home about.

The household is 7.0 ± 2.7 . This implies that farming household in the area of study have large household size. The distance to the nearest market is 7.7 ± 9.1 . This means that farmers would need to cover a long distance before getting to where they sell their produce.

Farming households' market positions

Table 2 shows the distribution of farmers according to their market positions in relation to specific crop being produced. Oyo State has the highest percentage (67.21%) of farmers who were maize net buyers followed by Ondo State (60.42%) and Edo State (45.25%), respectively. This may be possible because agro-ecology in the States differ. Also, farmers produce much output of a crop which its marginal expected revenue (MR) is equal to the marginal cost incurred (MC) (Jha and Srinivasan,

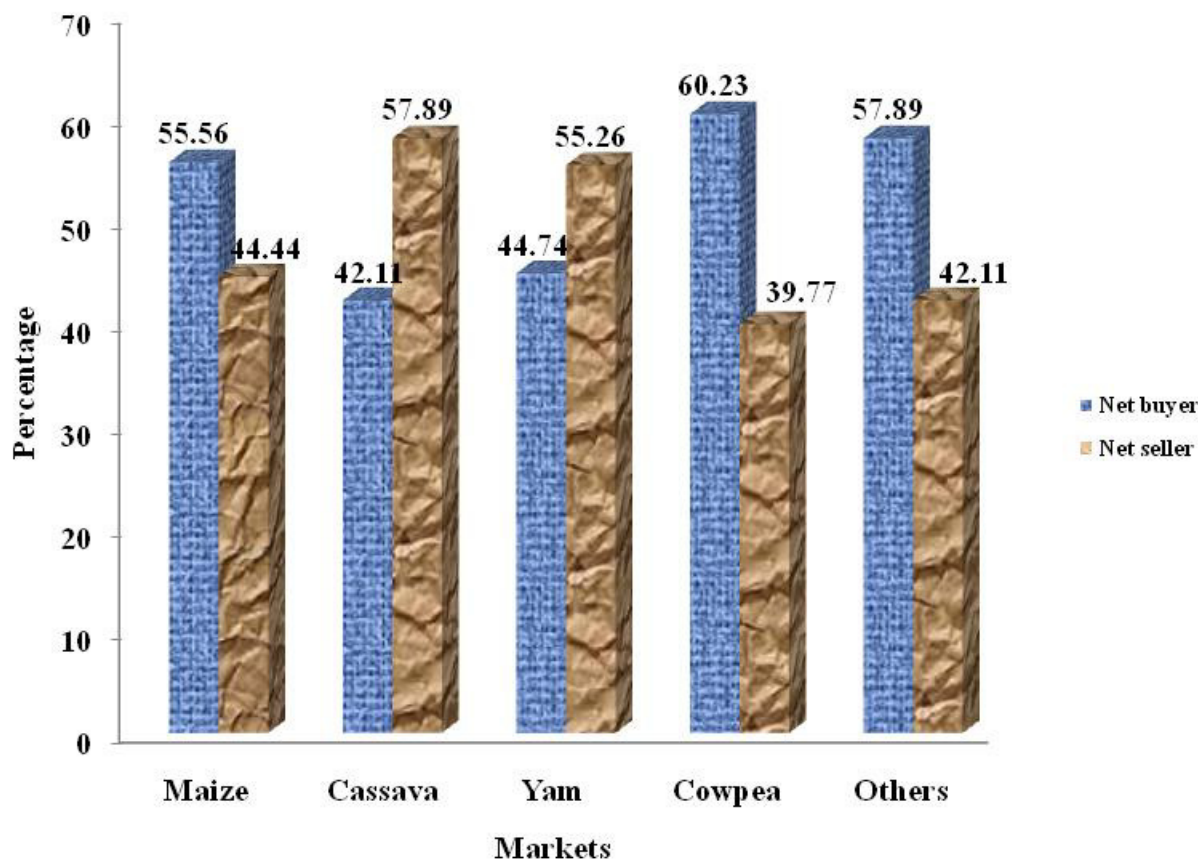


Figure 1. Distribution of marketing position in Southwestern Nigeria

1999). On the other hand, Edo State has the highest percentage (54.75%) of farmers who were maize net sellers followed by Ondo (39.58%) State and Oyo State (32.79%), respectively. However, in the zone, 55.56% and 44.44% were maize net buyers and sellers, respectively (Figure 1). This implies that higher percentage of maize farmers buy more of what they produce in the market. The result also, depicts that maize is a very important staple crop in the study area. This result agrees with the finding of Olarinde and Kuponiyi (2005), who found out that farmers who consume more of food they produce also buy more of the same produce in the market.

Furthermore, with regards to cassava, Edo State has the highest percentage (45.98%) of farmers who were net buyers followed by Ondo State (42.36%) and Oyo State (32.79%), respectively. This is possibly so because Edo State farmers are known to cultivate more of tree crops and banana/plantain than any other crops. On the contrary, Oyo State has the highest percentage (67.21%) of farmers who were net seller. In the zone, only 42.11% of farmers were found to be cassava net buyer (Figure 1). This means that cassava farmers in the zone buy more than what they sell in the market. This shows that this particular crop is an essential staple for the farming households in the zone.

In yam market, Oyo State has the highest percentage (70.49%) of farmers who were net buyers followed by Ondo State (46.53%). This probably happened because yams have been sold to the Northern part of the country and farmers would now have to go to the market to buy. As net seller of yam, Edo State has the highest percentage (60.61%) followed by Ondo State. Here, 55.26% of the farmers were net seller of yam (Figure 1). This implies that farmers sell more yam than the quantity they buy in the market. It therefore means that farmers earn more income from sales of yam and it implies that farming households could use this streams of income to buy items in the market including food.

In the case of cowpea, Ondo State has the highest percentage (74.31%) as net buyer while Oyo State did not participate in the cowpea market either as net buyer or net seller for the period. This was because of unfavourable weather condition. As net sellers, Edo State has the highest percentage (27.74%) followed by Ondo State. In the zone, only 39.77% of the farmers were cowpea net seller (Figure 1). Considering that fact that plant protein is very useful to the body and it is relatively available and affordable in the study area, the result implies that percentage of farming households that bought cowpea in the market was very high. This means that households spend more on buying cowpea in the

market. Probably because it was not a major crop in the area and as a cheap protein source, hence, the large purchase of cowpea.

It is inferred from the result of the study in this section that although farmers assume different positions in the food market, it is evident that farmers' net sellers' position in a market is used to offset their net buyers' position in other markets.

CONCLUSION

In the study area, analysis showed that the average age of the crop farmers was 50 years and average household size was seven (7) members per family. The crop farmers had a lot of farming experience as average years spent in farming was 21 years. However, there was low level of education among the farming households' head and the average distance covered by farmers from farm to the nearest market was seven (7) kilometers. In addition, the average farmers' income was as low as N 10,600 per month.

The empirical results emanating from the study showed that market position of the farming households vary in different crop markets in the Southwest agricultural zone. It could also be concluded that crop farmers participated more as net buyers in almost all the food markets except cassava and yam markets. It is therefore recommended that government should formulate policies that would make farmers have more access to market that will engender both local and national market integration.

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