

Economics of Soyabean Marketing in Kwara State, Nigeria

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Abstract

This study examined marketing of soyabean in Kwara State, Nigeria through marginal analysis and farmers' share of the consumers expenditure that went to the marketing system in 2011. Primary data obtained through a combination of purposive and random sampling techniques from 45 wholesalers and 75 retailers were used for the study. Structured interview schedule was used in cross-sectional data collection from the traders. The marketing margin at the wholesale and retail levels were N5,127 and N2,425 per metric tonne respectively. The farmers' share indicate that 15.55% and 8.60% of the consumers expenditure on soyabean went to the participants in the marketing system respectively, implying a low market performance. Therefore, there should be provision of market facilities and unhindered dissemination of market intelligence and information among the traders to improve market performance by the traders. The introduction of extension education programmes for the marketing intermediaries will also improve their technical knowledge and skills to make the marketing system become responsive to consumers' demand.

Key words: Soyabean, marketing margin, market performance and intermediaries.

Introduction

In recent days, the need to provide adequate access to nutritious food crops among the populace has been a challenge facing many economies. This is in the quest to reduce the nagging effects of malnutrition among the masses. In Nigeria, 11 million people (8.5% of the population) are undernourished (FAO, 2005). According to NDHS (2008), dietary protein deficiency is particularly critical in Africa (Nigeria inclusive) because many people cannot afford the regular animal source of protein.

Soybean is a stable food of great nutritional value. The crop has been recognized to be an ideal grain for meeting protein and energy requirement of both man and animal. Soybean is regarded as equal in protein to animal foods (WHF, 2004). Osho and Dishie (1998) reported that soybean has less purchase cost and has about 40% protein, 30% carbohydrates, 20% oil and 10% mineral and such is a good source of energy, vitamins and minerals, with an average production cycle of 90 -110 days from planting to harvesting (Nwokolo, 1996). Glami (2002) reported that soyabean protein is cheaper than animal protein, hence soyabean is a good source

of protein that is able to curb the menace of malnutrition in Nigeria.

Soyabean has also been found to be excellent for a number of different health conditions such as high blood pressure, diabetes, related diseases and others (WHF, 2004; Teixeira *et al.*, 2000; Sagara *et al.*, 2004). Osho and Dishie (1998) reported that the legume is very useful in revitalizing heart and breast cancer patients, because the crop is cholesterol-free. Naaz *et al.* (2003) added that consumption of foods containing soybean constituent is associated with reduced diseased risk factors, reduced osteoporosis, alleviation of menopausal symptoms, reduced cancer risk and reduced risk of obesity. He further added that isoflavone compounds found in soybean, especially genistein, may help individual to stay lean by causing the body to produce fewer and smaller fat cells. Soyabean works in the prevention of coronary heart disease, such as hypertension, through controlling cholesterol, blood pressure, vascular function and direct effects on the cells of the artery wall (Lijuan *et al.*, 2000; Descroches *et al.*, 2004).

There is evidence that soy food help reduce bone loss that typically occurs after menopause (Chen *et al.*, 2003). According to Faryna (1987) and Enwere (1998), soyabean can be a nutritional supplement for pregnant women, lactating mothers and children.

Given all these benefits of soyabean in human nutrition, there is therefore a need to encourage its accessibility among the individuals. In order to do this, an assessment of the marketing of soyabean is expedient. Therefore, this study examined marketing of soyabean in Kwara State, Nigeria. Specifically, the study examined the socioeconomic characteristics of the middlemen involved in soyabean marketing in the study area; determined the marketing margins, distribution of net margins as well as marketing efficiency among the soyabean marketers; and identified the constraints militating against efficient marketing of the commodity in the study area. The outcome of this study will be of great benefit to the stakeholders in soyabean marketing as well as policy-makers as this study indicates ways by which soyabean marketing can be improved upon.

Methodology

This study was carried out in Ilorin Metropolis of Kwara State, Nigeria. The population for this study comprise the soybean

respondents across the study area. A two-stage sampling technique was used for the study. First, five major markets namely: Oja-tuntun, Ipata, Oja-Oba, Oko-Olowo and Ganmo - were purposively selected in the study area because of their high involvement in soyabean marketing. This was followed by random sampling of nine wholesalers and 15 retailers in each market. Thus, a total of 75 retailers and 45 wholesalers were used for the study. Structured questionnaire was used as research instrument supplemented with personal interview. Data collected include background information of the respondents, marketing functions performed by respondents, the cost and selling prices of soyabean at the various stages of marketing and the problems faced in marketing of soyabean.

The data obtained were analyzed with descriptive statistics, gross marketing margin and marketing efficiency models. Descriptive tools such as percentage, mean and mode were used to describe the demographic and socio-economic characteristics and the marketing functions of the respondents as well as the problems faced by the respondents in soyabean marketing. Performance of soyabean marketing system was analysed using marketing margin and market efficiency as adopted by Obasi and Mejeha (2008) and Anuebunwa (2007) as follows:-

$$\text{Marketing margin} = \frac{\text{Selling Price} - \text{Supply Price}}{\text{Selling Price}}$$

$$\text{Marketing efficiency} = \frac{\text{Value added by marketing (Net Profit)}}{\text{Total Marketing Cost}} \times 100$$

The farmers' share of the consumers' expenditure on soyabean that went into the marketing system was determined through the analysis of the marketing margins. This was determined using the approach adopted by Adekanye (1982), Barau *et al.* (1993) and Anuebunwa (2006). The approach determines the respondents gross marketing margin as the difference between marketing cost price and the selling price. This is expressed as follows

$$D = C - A$$

Where D = Respondents gross marketing margin,

C = Sales from soyabean (₦), and

A = Marketing cost of soyabean (₦).

The farmers' share was then derived either, as the difference between the selling price

of soyabean and the respondents gross marketing margin and then expressed as percentage of selling price or by expressing farmers selling price (purchase price) as percentage of retail price (selling price).

Results and Discussion

Socio-economic characteristics of the respondents

The socio-economic profile of the respondents is presented in Table 1. All the respondents were female. This may be due to fact that marketing of food crops provides means of livelihood to women traders and may also allow them engage in other house works, like child-upbringing and house-keeping (Ayinde and Idris, 2005).

Majority of the respondents were married. This signifies the possibility of more availability of family labour for marketing activities. About 36% and 50% of the wholesalers and retailers, respectively, were 40 year old and below. Meanwhile, the mean age of the wholesalers and the retailers in the study area were 42 years and 40 years respectively. This implies that many energetic young traders were involved in soyabean marketing in the study area. It could also be observed in Table 1 that 75.56% and 77.33% of the wholesalers and retailers respectively had formal education. This indicates a high level of literacy among the traders. A high level of literacy could positively influence agricultural marketing business as it helps in sound decision business decision making and also predispose market participants to adoption and use of improved marketing strategies (Oluyole, 2005). Eighty-four per cent and ninety-two percent of the wholesalers and retailers, respectively, have marketing experience of 20 years and below with an average of 11 and 9 years. This suggests a high level of skills in soyabean marketing by the respondents.

Majority of the respondents were not members of any cooperative society. The implication of this is that the respondents are likely to be denied of accessibility to credit facilities, collective purchase, etc, offered by cooperative societies. Many of the respondents obtained fund for marketing activities from informal sources. Co-traders and friends were the major sources of market information available to the respondents in the study area. Just 4% of the retailers acquire information through the radio while none of the wholesalers did (Table 1).

Marketing functions performed by the respondents

Table 2 presents the functions carried out by the respondents. About 87% and 91% of the wholesalers and retailers, respectively, obtained their supply from the local markets while very few (13% and 8% of the wholesalers and retailers respectively) obtained theirs from other sources. The prices of soyabean and other commodities may therefore be cheaper at the local markets.

About 89% of the wholesalers used truck to convey their commodities from the point of purchase to the market (Table 2). This may be due to the fact that wholesalers may want to

utilize economics of scale by joining their supply. Meanwhile, wheel barrow and taxi are the major mode of haulage used by the retailers. This could result from the small sizes which they procure from the point of purchase in comparison to the wholesalers.

The unit of measurement involved agricultural marketing is crucial as it determines the cost price and selling price of the commodity. Most of the wholesalers used pale as their unit of measurement. This suggests that they sell the commodity in large quantity to the retailers and the consumers. On the other hand, majority of the retailers used tin and bowl as their own units of measurement. This could be due to the fact that they sell in small quantities (bits) to the consumers. Majority of the respondents used empty fertilizer bags for their storage while only few used bin. The respondents claimed that fertilizer bags were cheap, economical and much easy to apply chemical preservatives on.

Market margin and marketing efficiency of soyabean

Table 3 reveals the marketing margin, the farmers' share and marketing efficiency in the study area. Higher marketing margin was recorded for the wholesalers than the retailers. These factors may perhaps be responsible for higher marketing margin recorded at the wholesalers' level. The farmers' shares were 84.45 per cent and 91.40 per cent for wholesalers and retailers respectively. The implication of this is that 15.55 per cent and 8.60 per cent respectively of soyabean consumers' expenditure went to the marketing system.

Constraints to efficient marketing of soyabean

The problem encountered by the respondents are presented in Table 4. The major problem of soyabean marketing faced by the respondents was lack of credit facilities. Most of the respondents complained of inadequate capital to build or hire market stalls and expand their business.

The respondents also lamented over their methods of storage. About 11% and 7% of the wholesalers and retailers, respectively, complained that they had no perfect means of storing their commodity, especially when it was in peak at the farm gate. About 9% and 23% of the wholesalers and retailers respectively lamented over the seasonal variation they usually encountered which made them unable to adequately satisfy their customers' demand.

High cost of transportation from point(s) of purchase to the point(s) of sale was another problem faced by the respondents. About 16% of the wholesalers regretted that most of the roads from farm gates to their markets stalls were not motorable, resulting in high cost of

transportation of their commodity. Other problems complained by the respondents were those of risks and uncertainty in soyabean marketing as well as inadequate access to improved market information for effective arbitrage.

Table 1: Socio-economic Profile of the Respondents

| Variable | Wholesalers (N =45) | | | Retailers (N = 75) | | |
|--------------------------------------|---------------------|------------|------|--------------------|------------|------|
| | Frequency | Percentage | Mean | Frequency | Percentage | Mean |
| Gender | | | | | | |
| Female | 45 | 100.00 | | 75 | 100.00 | |
| Marital Status | | | | | | |
| Single | 1 | 2.22 | | 8 | 10.67 | |
| Married | 44 | 97.77 | | 67 | 89.33 | |
| Age (years) | | | 42 | | | 40 |
| ≤ 20 | 1 | 2.22 | | 5 | 6.67 | |
| 21 – 30 | 7 | 15.56 | | 11 | 14.67 | |
| 31 – 40 | 8 | 17.78 | | 21 | 28.00 | |
| 41 – 50 | 15 | 33.33 | | 20 | 26.67 | |
| > 50 | 14 | 31.11 | | 18 | 24.00 | |
| Educational Level | | | | | | |
| No formal education | 11 | 24.44 | | 17 | 22.67 | |
| Adult education | 7 | 15.56 | | 15 | 20.00 | |
| Primary education | 17 | 37.78 | | 29 | 38.67 | |
| Secondary education | 9 | 20.00 | | 11 | 14.67 | |
| Tertiary education | 1 | 2.22 | | 3 | 4.00 | |
| Marketing experience (years) | | | 11 | | | 9 |
| 1 – 10 | 24 | 53.33 | | 52 | 69.33 | |
| 11 – 20 | 14 | 31.11 | | 17 | 22.67 | |
| > 20 | 7 | 15.56 | | 6 | 8.00 | |
| Source of Fund | | | | | | |
| Personal savings | 14 | 31.11 | | 28 | 37.33 | |
| Money lenders | 11 | 24.44 | | 19 | 25.33 | |
| Relatives and friends | 14 | 31.11 | | 15 | 20.00 | |
| Banks | 4 | 8.89 | | 13 | 17.33 | |
| Cooperatives | 2 | 4.44 | | 0 | 0 | |
| Sources of Market Information | | | | | | |
| Co-respondents | 41 | 91.11 | | 58 | 77.33 | |
| Friends | 4 | 8.89 | | 14 | 18.67 | |
| Radio | 0 | 0.00 | | 3 | 4.00 | |
| Membership of Cooperatives | | | | | | |
| Member | 9 | 20.00 | | 4 | 5.33 | |
| Non-member | 36 | 80.0 | | 71 | 94.67 | |

Source: Field Survey, 2011

Table 2: Marketing Functions Performed by the Respondents

| Functions | Wholesalers | | Retailers | |
|-------------------------------|-------------|------------|-----------|------------|
| | Frequency | Percentage | Frequency | Percentage |
| Source of supply | | | | |
| Local markets | 39 | 86.67 | 68 | 90.67 |
| Own farm | 2 | 4.44 | 2 | 2.67 |
| Farm gate | 1 | 2.22 | 1 | 1.33 |
| Cooperative farm | 1 | 2.22 | 0 | 0 |
| Others | 2 | 4.44 | 4 | 5.33 |
| Total | 45 | 100.00 | 75 | 100.00 |
| Mode of Transportation | | | | |
| Taxi | 0 | 0 | 27 | 36.00 |
| Truck | 40 | 88.89 | 12 | 16.00 |
| Barrow | 0 | 0 | 36 | 48.00 |
| Personal vehicle | 5 | 11.11 | 0 | 0 |
| TOTAL | 45 | 100.00 | 75 | 100.00 |
| Unit of Measurement* | | | | |
| Tin | 0 | 0 | 73 | 97.33 |
| Bowl | 1 | 2.22 | 73 | 97.33 |
| Pale | 44 | 97.78 | 2 | 2.67 |
| Total | 45 | 100.00 | 75 | 100.00 |
| Mode of Storage | | | | |
| Fertilizer bag | 34 | 75.56 | 52 | 69.33 |
| Jute bag | 10 | 22.22 | 11 | 14.67 |
| Bin | 1 | 2.22 | 2 | 2.67 |
| Total | 45 | 100.00 | 75 | 100.00 |

* Multiple responses. Source: Field Survey, 2011

Table 3: Marketing Margin and Farmers' Share in Kwara State

| Parameters | Wholesalers | Retailers |
|---|-------------------------|-------------------------|
| | (Average cost ₦/ton) | (Average cost ₦/ton) |
| Purchase price of soyabean (A) | 51,033 | 61,133 |
| Marketing costs | | |
| Variable cost | | |
| Loading and offloading | 140 | 140 |
| Transportation cost | 2,000 | 1,210 |
| Packaging material | 220 | 105 |
| Handling charges | 140 | 140 |
| Fixed cost | | |
| Rent | 1,500 | 1,500 |
| Sanitation fee | 30 | 30 |
| Security fee | 200 | 200 |
| Total marketing cost (B) | 4,230 | 3,325 |
| Total cost | 55,263 | 64,458 |
| Selling price (C) | 60,390 | 66,883 |
| Gross market margin (D) [D = C – A] | 9,357 | 5,750 |
| Marketing margin (Net marketing margin) [D – B] | 5,127 | 2,425 |
| Gross marketing margin as % of selling price | 15.49 | 8.60 |
| Farmers' share (%) | 84.45 | 91.40 |
| Marketing efficiency (%) | 12.28 | 4.76 |

Source: Survey Data, 2011

Table 4: Problems Facing Efficient Marketing of Soyabean in the Study Area

| Sources | Wholesalers | | Retailers | |
|---------------------------|-------------|------------|-----------|------------|
| | Frequency | Percentage | Frequency | Percentage |
| Lack of credit facilities | 19 | 42.22 | 42 | 56 |
| Seasonal variation | 4 | 8.89 | 17 | 22.67 |
| Poor storage facility | 5 | 11.11 | 5 | 6.67 |
| High transportation cost | 7 | 15.56 | 2 | 2.67 |
| Others | 10 | 22.22 | 9 | 12 |
| Total | 45 | 100 | 75 | 100 |

Source: Field Survey, 2011.

Conclusion and Recommendations

This study reveals that soyabean marketing in Kwara State, Nigeria is characterized by a large number of young married female traders who are mostly not members of cooperative societies. The study also reveals that soyabean marketing is profitable and characterized by low market performance in the study area. Also, efficient marketing of soyabean is hindered by lack of credit facilities, seasonal variation in price, high transportation cost, poor storage system and access to marketing information. This is unfavourable to producers, marketers as well as consumers and the economy as a whole. Hence, based on the findings of this study, there is need for formation of cooperative societies by marketers of soyabean. This will make them benefit from economies of scale in marketing of soyabean and have much access to credit facilities as groups. Besides, government authorities, non-governmental organizations (NGOs) and development agencies should assist the respondents by providing them with sufficient market stalls and space. They could

also enhance the economic power of the traders by empowering them through micro credit facilities to supplement their personal savings. This can be done by revitalizing agricultural banks and encouraging cooperative societies.

In addition to these, feeder roads should be provided in the study area to make conveyance of soyabean easy by the market intermediaries. Access to improved market information for effective arbitrage should also be provided by instituting a unit in the local government authority and state Ministry of Agriculture (in collaboration with research agencies and universities) to collect, analyze and disseminate timely information on prices, demand and supply situation of soyabean. This could be through radio, newspapers and bulletins. The introduction of extension education programmes for the marketing intermediaries will also improve their technical knowledge and skills to make the marketing system become responsive to consumers' demand.

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