

COSTS AND RETURNS ANALYSIS OF COMMERCIAL OKRA PRODUCTION IN FEDERAL CAPITAL TERRITORY, ABUJA, NIGERIA

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ABSTRACT

The study analyzed the okra production among commercial farmers in Federal Capital Territory, Abuja, Nigeria. Primary data were collected through a well structured questionnaire administered to randomly sampled okra farmers in the city, from four area councils namely: Gwagwalada, Kuje, Bwari, and Abuja Municipal Area Council. The data collected from two hundred and twenty-one (221) farmers were analyzed using descriptive statistics, commercialization level and profit analysis. The result shows that the average age of farmers was 57 years, majority were educated and experienced farmers. Commercialization index indicates that the household commercialization of okra production was 51.22%, a confirmation that they were oriented towards commercialization. The profit analysis showed that commercial okra production is profitable with an average of ₦316, 728 per hectare. The major problems faced by farmers were inadequate capital to expand production, inadequate storage facilities and bad roads. Farmers need to be educated on new techniques in the storage of okra.

Key words: commercialization, okra production and profit

INTRODUCTION

The term vegetable is used to describe the tender edible shoot, leaves, fruits and root of plants and spices that are consumed whole or in part, raw or cooked as a supplement to starchy foods and meat. Okra is one of the well known vegetables, and it is very good for the body (Olasantan *et al.*, 2009). In most countries of the world, vegetable is one of the staple food components whose production has continued to increase (Udoh and Akpan, 2007). According to (Bakhru, 2003) the main sources of farm income for small and limited resource farmers are basically arable crop production, vegetables and non-vegetable crops. Okra is the most important fruit vegetable crop and a source of calorie (4550kcal/kg) for human consumption. It ranks first before other vegetable crops (Babatunde *et al.*, 2007). It is one of the most commonly grown vegetable crops in the tropics (Njoku, 2009). Okra cultivation and production has been widely practiced because of its importance to the economy development and can be found in almost every market in Africa.

Agricultural commercialization involved a deliberate action on the part of agricultural producers to use factors of production in such a way that a greater part of the crops produced is for exchange or sale (Okezie, 2006). In Nigeria, there is a wide gap between domestic food supply and demand of most food crop (Ajibefun, 2003). This is because agricultural productions especially arable crops have remained at subsistence oriented level in most part of the country despite the comparative advantage of producing in large quantities for commercialization. Okra farming in Federal Capital Territory (F.C.T) has mostly been in commercial production, while commercialization of okra productions is defined as large scale production of okra to the populace in the city (Udoh and Akpan, 2007). This form of production is aimed mainly for large sales, its production are profit maximization, also aimed at satisfaction of different felt needs and interest of the consumers, this also serve as agricultural business which implies concept of business management, it equally leads to entrepreneurial achievements of farmers, apart from the medicinal values of okra to mankind and its ability to settle food nutrients deficiencies in human body. Therefore, this study analysed the costs and returns in commercial okra production in the Federal Capital Territory, Abuja. The specific objectives are to describe socio-economic characteristics of okra farmers in the study area; determine the commercial level among farmers; estimate the costs and returns from okra production and identify problems associated with commercial okra production.

METHODOLOGY

Study area

This study was conducted in Abuja, the Federal Capital Territory (F.C.T), located in the Savannah grassland of the North and middle belt of Nigeria. It is bounded on the North by Kaduna State, the west by Niger State, the east and southwest by Nassarawa and southwest by Kogi State. It falls within latitude $70^{\circ} 20'$ North of Equator and longitude $60^{\circ} 45'$ and $70^{\circ} 39'$. F.C.T occupies a land area of 8,000sq kilometre. It has an estimated population of 1,306,139 disaggregated into 733,172 males and 673,067 females (National Population Commission, 2012). The estimated farming population is about 93,092 whereas the estimated Okra farming families are about 10,000 (F.C.T A.D.P, 2010).

Sample Technique and Sampling Size

This study covered only the four area councils of the Federal Capital Territory, Abuja okra farmers constitute the population sample frame. Multistage sampling technique was used in this study, in the first stage, eleven farming communities villages were randomly selected from the four councils namely, Kuje, Gwagwalada, Bwari, and Abuja Area Municipal. A total of two hundred and twenty-one (221) commercial okra producers were sampled.

Method of Data Analysis

The data collected was analyzed using descriptive statistics such as frequency counts, mean and percentage. commercial level, cost and returns of okra production was analyzed using budgetary approach (profit analysis).

The budgetary approach used is given as:

$$\text{Profit} = \text{TR} - \text{TC} \text{ and } \text{TC} = \text{TFC} + \text{TVC}$$

Where TR = Total Revenue; TC = Total Cost; TFC = Total Fixed Cost; TVC = Total Variable Cost, Return to investment = TR/TC.

RESULTS AND DISCUSSION

Socio-economic Characteristics

Result in table 1 show that the average age of sampled farmers was 57.25; an indication that the respondents are active to be commercial okra producers. This result is similar to that of Ehirim *et al*; (2014), in their study of okra producers in Imo state; they found out that the average age was 52 years. Further analysis showed that majority of respondents had secondary school education; this means that majority of okra farmers can read and therefore will be able to adopt new technology and go commercial. Table 1 also shows that majority of farmers had farm size between 2 and 4 hectares, an indication of commercial production. The farming experience indicate that majority of farmers had between 21-30 years. This will have a positive relationship with their production level, this result is in conformity with the findings of Ehirim *et al*; 2014. In most cases, family labour, hired labour and a combination of both are employed. From table 1 it was discovered that majority (84.16%) of the sampled okra farmers used joint or integrated method, this is expected because of the large farm size used by the okra farmers.

Household Commercialization Level on Sampled Okra Production

The field research result of the household commercialization level of Okra production in the study area as shown in the table 2 indicated that, the value of okra sold by the household on the average was ₦ 105,946,000, whereas the value of okra produced by the household on average was found to be ₦ 206,860,000. The household commercialization level for the okra production calculated as the percentage of quantity sold over quantity harvested (quantity sold/quantity harvested * 100) had an average of about 51%, this means that the production of okra among the farmers in Federal Capital Territory household was averagely oriented towards commercialization. This means, their index value (51.22%) away from 100% which represent the highest degree of commercialization.

Costs and returns of okra production

The result obtained from the field research in table 3 showed that, the average revenue from the okra production in the study area was found to be ₦ 936,018.00 per hectare whereas the total cost was found to be ₦ 619,290.00 per hectare, and this result to ₦ 316,728 profit per hectare. This study indicates that the enterprise is profitable, and it can be commercialized in Federal Capital Territory, Abuja. Okra enterprise in Abuja can serve as an additional source of revenue for household, simply because there is high demand for it to make soup with it.

Problems faced by the Okra farmers

The problems faced by the Okra farmers that serve as constraints affecting the Okra farmers to commercialize their farms are represented in table 4. The result obtained from the field showed that, the farmers has one problem or the other which militate the commercialization of okra. Based on the research finding it was discovered that, 65.61% of the farmers faced problem of inadequate capital to expand their farm land. The result obtained also, showed that 9.50% had problem with bad road, while 5.88% of them had problem with high cost of transportation, 5.88% had problem with inadequate storage facilities, 4.53% had problem with inadequate water supply.

CONCLUSION

This study analyzed the commercial okra production in Federal Capital Territory, using commercialization level, profit analysis and descriptive statistics. Profit analysis indicates that okra production is profitable. The major constraints were insect and disease attack, bad roads, lack of storage facilities, lack of improved varieties of seeds, insufficient capital, lack of Extension Agents visit and lack of government assistant. It is therefore recommended

- (1). that more extension agents should be posted to the farming communities who would always visit the farmers and introduce new technologies or new findings, techniques compatible with the farmers' environment as well as solving their problems they encounter on daily basis.
- (2). The farmers themselves or federal government should assist by providing feeder road so as to link up to market in the city.
- (3). There should be more supply of improved seed varieties for the okra farmers to be able to improve on their farm production.
- (4). Also, government and non-governmental organization should grant loan to the okra farmers in remote farming communities.
- (5). Adequate storage facilities need to be provided for the farmers in order to preserve their perishable product.

Table 1: Socio-economic Characteristics of Okra Commercial Farmers

Variables	Frequency	Percentage
Age		16.74
41-50	37	52.94
51-60	117	27.15
61-70	60	3.17
>70	7	100.0
Total	221	
Educational Status		4.52
No formal education	10	7.23
Primary education	16	48.41
Secondary education	107	26.69
Tertiary education	59	

Source: Field Survey, 2013

Table 2: Household Commercialization Index on Sampled Okra Production

Item	Value in Naira (₦)
Gross Value Okra sold	105,946,000
Gross Value Okra produced	206,860,000
Amount consumed + gift	3,085,000
Household commercialization index	51.22

Source: Field Data, 2013

Table 3: Cost and returns of okra production in study area

Items	Average Cost (N/ha.)	Percentage
Fixed Cost	198,870	83.46
Land	5,940	2.49
Hand fork	4,380	1.84
Garden fork	660	0.28
Digging mattock	2,500	1.05
Rake	3,000	1.26
Basin	800	0.34
Basket	17,000	7.13
Sprayer	2,250	0.94
Secateurs	890	0.37
Watering Can	2,000	0.84
Hand trowel	500	0.21
Depreciation	238,790	100.00
Total Fixed Cost (TFC)		
Variable Cost		
Okra seed	6,800	1.79
Labour	120,500	31.67
Fertilizer	150,000	39.42
Transportation	100,600	26.44
Seed dresser	2,600	0.68
Total Variable Cost (TVC)	380,500	100.00
Total Cost (TC) = (TFC + TVC)	619,290	
Total Ave. Revenue (TR)	936,018	
Profit = TR-TC	316,728	
Benefit-cost ratio	1.51	

Source: Field Survey, 2013

Table 4: Problems faced by the Okra farmers

Specific problem	Frequency	Percentage	Cumulative Frequency	Cumulative Percentage
(a) Bad road	21	9.50	0	0
(b) Inadequate capital	145	65.61	21	9.50
(c) Inadequate land	6	2.72	166	75.11
(d) Inadequate water supply	10	4.53	172	77.83
(e) High cost of transportation	13	5.88	182	82.36
(f) Inadequate storage facilities	13	5.88	195	88.24
(g) Lack of man power	4	1.81	208	94.12
(h) Pest and disease	2	0.91	212	95.93
(i) Others	7	3.17	214	96.84
Total	221	100.00	221	100.00

Source: Field Survey, 2013

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