
Socio-Economic and Profitability of Sole Maize Farming in Karim-Lamido Local Government Area of Taraba State, Nigeria

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ABSTRACT

The study examined the socio-economic and profitability of sole maize farming in Karim-Lamido Local Government Area of Taraba State, Nigeria. Multi-stage random sampling techniques were used in selecting 100 farmers. Both descriptive and inferential statistics were used for the analysis. The results of the socio-economic attributes of the farmers showed that most (86%) were young experienced (65%) mostly (87%) males and had one form of formal education (60%) and majority (92%) having 4 hectares and below land under cultivation. The results of budgeting techniques revealed that maize farming in the study area is economically viable as a gain of ₦0.20 was realized for every naira invested. The Gross ratio of 0.80 also showed that the business of maize farming in the study area is worth venturing. It is recommended that, government assistance through the extension agents should be directed towards the maize farmers in order to help improve their productivity and also on the part of the farmers, they are advised to form cooperative societies in order to fast track access to government gestures such as credit facilities and farm inputs.

Keyword: Profitability, Socio-Economic, Maize, farming, Karim Lamido, Taraba State.

Introduction

Maize is the third most important cereal crops grown in Nigeria (CBN, 2003; Adekunle and Nabinta, 2000). It is indeed one of the staple foods of great economic importance in the Sub-Sahara Africa (FOA, 2003) with its cultivation spanning across the country from the dry savannah to humid area.

Ogunsumi *et al.*, (2005) asserted that, inspite of the abundant land and human resources available in Nigeria, yields per hectare from maize production have been on the decline over the years. Thus, the poor performance of the crop can be attributed to the fact that, bulk of the country's producers (over 90%)

produce at subsistence level with rudimentary farming system, low capitalization and low yield per hectare (Olayemi, 1998; Nyororo, 2004). Moreso, the authors stated that, input/output price fluctuation, credit facilities, diseases and pests, poor storage facilities among maize farmers have been identified as major problems of low maize yield in Nigeria. The land areas put to maize production in 2005 was estimated to be 3200.05 hectares, still the demand outstripped supply (NAERLS, 2005). Therefore, it is important to understand the farmers' levels of production and its relationship with land factors which can greatly improve the production of the commodity. This can be achieved through investigating the socio-economic and profitability of the sole maize farmers. Precisely, the study will seek to answer the following research questions.

1. What are the major socio-economic attributes of the sole maize farmers in the study area?
2. What is the profit margin of sole maize production in the study area?
3. What are the constraints to sole maize production in the study area?

Research Methodology

Karim Lamido lies between latitude $10^{\circ} 15$ and longitude $10^{\circ} 11$ east and between latitude $8^{\circ} 41$ and longitude $9^{\circ} 35$ north of the equator. It has a land mass of $6\,544\text{km}^2$ with a total population of 193,924 people National Population 2006 estimation (NPC, 2006). The local Government shares boundaries with Gombe and Adamawa states in the north and northeast and with Bauchi and Plateau states in the west and southwest respectively. It is heterogeneous in ethnic composition each with its own distinct language and dialects. The economic activities in the area is largely agrarian with majority of the people live as subsistence farmers who cultivate crops such as cowpea, rice, sorghum, groundnut, Beniseed, Cassava and other crops.

The study made use of primary and secondary sources of data. The primary data were collected with the use of structured questionnaires administered to 100 respondents and information extracted for the study. While secondary data were obtained from agricultural journals, proceedings and textbooks. Multi-stage, purposive and simple random sampling techniques were employed for the selection of the respondents for the study. Karim Lamido Local Government Area has 11 wards. The first stage of sampling involved random selection of 6 wards in the local government area. In the second stage, 12 villages out of 24 villages were randomly selected which formed the first sampling frame. In the third stage a list consisting of all the names of sole maize farmers in each of the 12 villages were obtained and recorded in separate sheet of papers, thus,

formed the second sampling frame. Then at random a total of 100 farmers were chosen in the 12 villages in a ratio proportional to the size of their population.

The analytical tools used in achieving the objectives of this study include: descriptive statistics (percentages and frequencies) and Gross Margin Analysis. The specification of the model is as follows:

Gross Margin Analysis (Budgeting Technique): Budgeting techniques was used to estimate costs and returns of the maize production. The specific type of budgeting techniques used was the Gross Margin Analysis and the Net Farm Income (Daniel et-al., 2010; Kudi et-al., 2008).

Thus; the model:

$$GM = GI - TCV \quad - \quad - \quad - \quad - \quad (1)$$

Where; GM = Gross Margin
 GI = Gross Income
 TVC = Total Variable Cost

$$NFI = GM - TFC + TVC \quad - \quad - \quad - \quad - \quad - \quad - \quad - \quad (2)$$

Where; NFI = Net Farm Income
 GM = Gross Margin
 TFC = Total Fixed Cost
 TVC = Total Variable Cost

To determine the profitability of maize productions some ratios will be calculated using the following:

i) $GR = \frac{TC}{GI}$ (Olukosi and Erhabor, 2005) - - - (3)

Where; GR = Gross Margin
 TC = Total Cost
 GI = Gross Income

ii). $OR = \frac{TVC}{GI}$ - - - - - - - (4)

Where; OR = Operating Ratio
 TVC = Total Variable Cost
 GI = Gross Income

$$\text{iii). } FR = \frac{TFE}{GI} \quad \text{or} \quad \frac{TC}{GI} \quad - \quad - \quad - \quad - \quad - \quad - \quad (5)$$

Where;
 FR = Fixed Ratio
 TFE = Total Farm Expenses
 GI = Gross Income

In Gross Ratio (GR), a value of less than one (<1) is desirable for the business. The lower the ratio, the higher the returns per naira invested. A greater than one ratio (>1) is disastrous for any set up business.

Operating Ratio (OR) of one means the gross income barely covers the expenses on variable costs. The operating ratio of less one (<1) is desirable. If the fixed ratio (FR) is close to one, it means some of the fixed cost or inputs are either left idle or underutilized.

Results and Discussion

Socio-Economic Attributes of Farmers

Empirical results of the respondents (Table 1) showed that 86% of the respondents are within the age range of 20-49 years. There were only 21% of those less than 18 years and 12% were 50 years and above. The age distribution indicates that majority of the respondents are in their youthful age capable of handling maize production. The result also suggests that a lot of young people can be gainfully employed in maize cultivation. Analysis of gender of the respondents in the study area showed that maize cultivation is dominated by male farmers, as majority (87%) with 21% only single. As for the experience of the farmers in maize farming, 47% (11-20 years experience) 25% (6-10 years experience) and 15% were in the range of 3-5 years experience. The expectation is that the farmers will use their experience coupled with the extension contact to manage their maize farms better. More than half (70%) of the respondents have reported to have had contact with extension agents from the Taraba State Agricultural Development Programme while 30% were reported to have had no contact with Extension Agents. Extension contacts are channels or avenues through which agricultural innovations are passed to farmers for increase in productivity, hence improvement in the standard of living.

The educational level of the farmers was encouraging, the results of which revealed that 40% of them did not attend any form of education, 22% attended

secondary school, 14% had tertiary education and 21% attended primary school. According to Idjasa (2007); Adetiba (2005); Iduma (2006); and Alabi & Aruna (2006) education is one of the key assets to foster productivity in any profession. Education is important in the development of a country's economy.

Analysis of Table 1 also showed that majority (74%) of the respondents obtained their capital from personal savings, 10% from their friends while 10% from local contribution and 6% from NACRDB. The result therefore indicates that expansion of farms may not be feasible due to the fact that farmers have limited access to formal credit facilities. Akinseinde (2006) noted that access to credit facilities contributed positively to household's production efficiency.

Cost and Returns

An estimated net income per hectare per annum was analyzed using Gross Margin Analysis. Olukosi & Erhabor, (2005) stated that gross margin analysis involves the estimation of the total expense (costs) as well as various receipts (revenue or returns) within the production period. Table 2: revealed that farmers incurred an average cost of ₦42,046.65 per hectare and within the same period they had an average estimated returns of ₦54,326.70 per hectare. This implies that the farmers made a profit per hectare.

Profitability Ratio Analysis of Maize Production

The Gross Ratio (GR) of the farm was 0.80 which shows that 80% of the gross income went for total cost. A ratio of less than one (<1) is always desirable for any farm business. The lower the ratio the higher the return per naira invested and greater than one (>1) is disastrous for any set up business (Olukosi and Erhabor, 1988). The return on naira invested in maize production by the farmers was ₦0.20, that is, for every one naira 20k is a gain. The maize farmers are therefore encouraged to continue in the business because it is profitable.

Conclusion and Recommendations

The results obtained in this study showed that maize production is a profitable venture in the study area. Also, the study identified inaccessibility of the farmer to credit facilities as a major constraint towards increased productivity and if solved will go a long way to increasing the income level of the respondents hence standard of living.

The following recommendations are therefore proffered based on the findings of this work.

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- Farmers are advised to form a vibrant cooperative societies to enable them have access to credit facilities which will lead to the expansion of their farms, increase productivity, increase their incomes, hence, improve their standard of living.
- Extension workers should intensify campaign on cultivation of maize to farmers because it is a viable food crop which require awareness especially those entertaining fear in its cultivation.

Table I : Socio-economic Characteristics of Maize Farmer

Variable	Frequency	Percentage (%)
Age		
<18	2	2.0
19-29	26	26.0
30-39	30	30.0
40-49	30	30.0
50 and above	12	12.0
Total	100	100
Marital Status		
Married	79	79.0
Single	21	21.0
Total	100	100
Farming Experience (Year)		
<3	13	13.0
3-5	15	15.0
6-10	25	25.0
11-20	47	47.0
Total	100	100
Educational Level		
No formal education	40	40.0
Primary education	24	24.0
Secondary education	22	22.0
Tertiary education	14	14.0
Total	100	100
Farm Size		
1 (ha)	23	23.0
2 (ha)	43	43.0
3 (ha)	16	16.0
4 (ha)	10	10.0
5 (ha)	8	8.0
Total	100	100
Contact with Extension Agent		
No visit	30	30.0
Once/week	22	22.0
Twice/week	25	25.0
Total	100	100
Sources of Credit		
Personal saving	74	74.0
Friends	10	10.0
NARDB	6	6.0
Others	10	10.0
Total	100	100

Sources: Field Survey; 2013

Table 2: Estimated average costs and returns of maize production

Production Inputs (Variables)	N/Ha
Variable Inputs (A)	
Land	4000.00
Labour	13201.25
Seed	3325.40
Fertilizer	4520.00
Chemical (Herbicide)	6000.00
Transport	42,042.65
Total Variable Costs (TVC)	1260.00
Fixed Cost (B)	54,326.70
Returns	
Output Gross Revenue (C)	11,280.05
Gross Margin (GM) (C - A)	
Net Farm Input (NFI) = GI - TC (TFC + TVC)	11,020.05

Sources: Field Survey, 2012

Table 3: Profitability Ratio Analysis of Maize Production

Parameter	Profitability (N)
ROI (Return on Naira Invested)	0.20
Opening Ratio (OR)	0.77
Fixed Ratio (FR)	0.02
Gross Ratio (GR)	0.80

Sources: Field Survey, 2012

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