



Review Article

PROFITABILITY OF GROUNDNUT PRODUCTION IN CHARANCHI LOCAL GOVERNMENT AREA OF KATSINA STATE, NIGERIA

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ARTICLE INFO

Article History:

Received 05th, December 2015
Received in revised form
29th, January 2016
Accepted 04th, February 2016
Published online 31st, March 2016

Keywords:

Profitability, Groundnut,
Production, Government.

ABSTRACT

The study examined the economic analysis of groundnut production in Charanchi Local Government area of Katsina State. Purposive and random sampling techniques were employed to select 80 respondents. The tools for collection of primary were structured questionnaires. The data were analyzed using both descriptive such as percentage and frequency and inferential statistics. These included percentage, frequency and farm budget model. Farm budget model was used to estimate cost and returns from groundnut production in the study area. The study revealed that the average cost of production per hectare was N11, 213.35. The study further revealed that the average revenue and net farm income per hectare were N22, 808.58 and N11, 595.23 respectively. The result shows that the return to naira invested was 1.03 which implied that for every naira invested in groundnut production in Charanchi LGA, a farmer will make a profit of N1.03. The problems encounter by the farmers included pest and diseases, instability market price, inadequate inputs and high cost of inputs. The study concluded that groundnut farming is profitable in the study area. It is recommended that Government should link farmers to relevant loan agencies, extension services should be made available to farmers to get more profit and improve seed should be made available and affordable to the farmers.

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INTRODUCTION

Groundnut *Arachishypogea* belong to the family leguminosea. It originated from Latin America and Portuguese introduce it into West Africa from Brazil in the 16th Century (Hamidu et al, 2006). Awoke (2001) reported that groundnut is cultivated in many countries and leading producing countries are India, Nigeria, United State, China and Senegal. Nigeria produces 41% of the total groundnut production in West Africa (Abalu and Etuk, 1998; Hamidu et al, 2006). Groundnut contains 25% protein and more than 48% oil (Echekwu and Emeka, 2005). Groundnut flour is used as an ingredient in soup confectionaries and pudding. Groundnut cake is often deep fried or dried to make a snack caked kuli-kuli (Hamidu et al, 2006). Groundnut is the main export crop of Nigerians Northern states and bulk of the crop is produced at the North of the latitude 11^oN. Groundnut is the 13th worldwide most important food-crop, and fourth important oil seed-crop (Smith, 2002). Groundnut seeds, which are known as Kernals, contain 40 – 50% fats, 20 - 50% protein and 10 – 20% carbohydrates (Sorrensen et al, 2004, Girei et al., 2013).

They are a nutritional source of vitamin E, and of some other minerals for human health. The latter include niacin, fulacin, calcium, phosphorus, magnesium, zinc, iron riboflavin, thiamine and potassium. Groundnut is useful in the treatment of haemophilia, and can cure stomatitis and prevent diarrhoea. It is beneficial for growing children and for both pregnant and nursing mother (Akobandu, 1996). Before oil boom era of the 1970 – 1980 groundnut had play a very significant role in the Nigeria's agro-economic development of the 1960's. Despite its importance, there are numerous problems confronting groundnut production such as inadequate improved seeds, pest and diseases, changing weather pattern characterise by the repeated drought and shortage of appropriate farm input. Nigeria has become a net importer of groundnut. Groundnut producers as well as marketers encounter a lot of problem in relation to their activities, the problems include lack of technical know-how in the production practices, storage, marketing or processing. Generally this include lack of adequate storage facilities, pests and diseases infestation, drought, high cost of input, untimely supply of input and poor market price at harvest. These problems affect groundnut production in Charanchi local government area. The demand of groundnut and groundnut products is rapidly growing by the day to meet up

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with vegetable oil required which is used in the production of salad oil, Margarine and many other fat substitutes and protein. It is hope that, this study will provide information that will be useful to prospective producers and stakeholder in the study area and the nation in general. The study therefore examined the profitability of groundnut production in Charanchi local government area of Katsina State. While the specific objectives are to:

- i. Determine the socio-economic characteristics of groundnut producers,
- ii. Evaluate the cost and returns of groundnut production in the study area and
- iii. Identify the constraints affecting groundnut producers in the study area

MATERIALS AND METHODS

Study Area

The study area is Charanchi Local Government Area of Katsina State. It is located on latitude 13⁰⁰'N and longitude 07³⁶'E with altitude of 182.87 meters above sea level, and it falls within ecological zone of Sudan savannah. It is characterized by a short rainy season with annual rainfall of about 500 to 800mm and temperature of between 28⁰C and 32⁰C. The area has relative humidity, rising to between 60% and 88% in July (King, 1994). Charanchi local government has a population of 159,229 people (NPC, 2006). According to Usman (1995), over 70% of the population in the study area engaged in farming as their main occupation. The major crops grown include groundnut, millet, sorghum, cowpea, rice and vegetables.

Sampling Techniques and Sample Size

A multi-stage sampling technique was used in selecting the respondents. The first method was a purposive sampling where four (4) groundnut producing town/villages were selected from two districts namely; Charanchi and Kuraye districts. Charanchi and Koda were selected from Charanchi district, while Kuraye and Banye from Kuraye district. Accordingly, simple random sampling technique was used in selecting thirty (30) from Charanchi and twenty (20) from Kuraye, then 15 respondents each were selected from Koda and Banye and this give a total sample of 80 respondents for the study.

Method of Data Collection and Analysis

Primary data was collected by means of structured questionnaires and personal interview.. The primary data comprises information on socio-economic variables of the respondents and information on groundnut production in the study area. The secondary sources used were text books, journals, proceedings, internet and relevant agencies. The analytical tools for this research were descriptive statistics and farm budgeting techniques.

Farm budgeting technique

Farm budgeting technique was employed to determine the cost and return of groundnut production in the study area. The farm budget is expresses in this form:

$$NFI = GI - TC \dots \dots \dots (1)$$

Where;

NFI = Net Farm Income

GI = Gross Income from groundnut production

TC = Total Cost (Total variable cost + total fixed cost) from groundnut products.

Return per naira invested: This is the return on each naira invested in the production of groundnut. It is estimated as:

$$RNI = \frac{NFI}{TC} \dots \dots \dots (2)$$

RESULTS AND DISCUSSION

The socio economic characteristics of the respondents play a significant role in creating awareness and knowledge in determining their farming pattern. Table 1 shows that 35.75% of the respondents were within the age group of 21 – 30 years and follows by age bracket of 31 – 40 years. Those respondents who are in the age bracket of 61-70 years constituted about 1.25%. This implied that majority of the respondents are wither the active age group and their productivity is expected to be high. The result is in agreement with Taruet *al.* (2008). The result also shows that majority of the respondents (50.00%) have a family household size of 1 – 10 persons. This implies that the larger the household size, more family labour may be expected in groundnut production capacity and also consumption (Adams, 2000). Then followed by 18.75% who have family size ranging from 21-30 persons. Only 2.50% of the respondents had household size of about 31-40 persons. The table further indicated that majority of the respondents (30.00%) attended tertiary education, (27.50%) attended secondary education, (17.50%) have no formal education. Their educational level may probably be good enough to take rational decision affecting them or good enough to influence the adoption to any improved technology introduced to them, in terms of groundnut production. The table shows that majority of the respondents (75.00%) have 1 – 10 years of farming experience, 11.25% have between 21 – 30 years of farming experience, 7.50% have between 11 – 20 years of farming experience, 5.00% have between 31 – 40 years of farming experience and only 1.25% of them have 41 – 50 years of farming experience. The table revealed that majority of the respondents (75.00%) had 0.5 – 5 hectares while 11.25% had 5.5 – 10 hectares. The average size of the farms in the study area was 6.19 hectares. This indicated that the farmers were operating on small scale level.

Table 1. Socio-economic characteristics of the respondents

Age (years)	Frequency	Percentage (%)
10 – 20	4	5.00
21 – 30	27	33.75
31 – 40	25	31.25
41 – 50	7	8.75
51 – 60	16	20.00
61 – 70	1	1.25
Total	80	100.00

Mean 36.35

Household size (persons)		
1 – 10	46	50.00
11 – 20	8	10.00
21 – 30	15	18.75
31 – 40	2	2.50
Total	80	100.00
Mean	10	
Education		
No formal education	14	17.50
Primary education	9	11.25
Secondary education	22	27.50
Tertiary education	24	30.00
Adult education	11	13.75
Total	80	100.00
Farming experience (years)		
1 – 10	60	75.00
11 – 20	6	7.50
21 – 30	9	11.25
31 – 40	4	5.00
41 – 50	1	1.250
Total	80	100.00
Mean	10.5	

Farm size (ha)		
0.5 – 5	60	75.00
5.5 – 10	9	11.25
10.5 – 15	5	6.25
15.5 – 20	1	1.25
20.5 – 25	0	-0
25.5 – 30	2	2.50
30.5 – 35	0	0
35.5 – 40	2	2.50
40.5 – 45	0	0
45.5 – 50	1	1.25
Total	80	100.00
Mean	6.19	

Source: Field Survey, 2013.

Table 2 shows that variable cost constituted the greater proportion of the total cost of production which was estimated at 96.24%, specifically fertilizer cost covered 19.89% of the total cost which was the highest. The cost of rent was the second with 19.22%, followed by cost of ridging (13.30%), weeding 11.69%, seeds 11.08%, harvesting 9.32%, labor 6.31%, pesticide 2.59%, transport 2.28%, and insecticide 0.62% of the total cost of production respectively. The total variable cost was ₦10791.73 and total fixed cost which is depreciation on equipment was ₦421.62 which constituted 3.76%. These result further revealed that variable cost is most sensitive components of production in groundnut. According to revenue generated from groundnut production in the study area through the sale of groundnut bag. The total revenue from the production of groundnut on average in the study area is ₦22808.58 and the net return (profit) was ₦11, 595.23. The return per naira invested was ₦1.04 per hectare. This implied that in every naira invested the farmer realized a return of ₦1.03. Hence groundnut production is a profitable business in the study area. Table 4 shows that pest and disease was the most serious among the problems mentioned by the respondents which constituted about 81.25%. This is followed by instability of market price (62.50%) while inadequate input constituted 43.75% among the constraints encounter. Further high cost of input constituted (37.50%), while the least among the problems was operation is tedious which constituted about (18.75%).

Conclusions

The study found out that the respondents were within the active working group (21-50 years) and were all small scale farmers.

Table 2. Average cost and return for groundnut production per hectare(₦)

Items	Frequency	Percentage (%)
A variable cost		
Seed	1241.99	11.08
Fertilizer	2230.89	19.89
Pesticides	290.19	2.59
Insecticide	69.77	0.62
Labour	707.21	6.31
Ridging	1491.24	13.30
Weeding	1311.13	11.69
Harvesting	1033.40	9.32
Transport	255.26	2.28
Rent	2154.65	19.22
Total variable cost	10791.73	
B Fixed assets		
Depreciation on asset	421.62	3.76
Total fixed cost	421.62	
Total cost	11213.35	
Total returns	22808.58	
Net farm income (NFI)	11606.43	
Return per naira invested (RNI)	1.04	
Total		100.00

Source: Field Survey, 2013.

Table 3. Distribution of respondents according to problems affecting groundnut production in the study area

Problems	Frequency	Percentage (%)
Inadequate input	35	43.75
High cost or input	30	37.50
Untimely supply input	25	31.25
Pest and diseases	65	81.25
Operation is tedious	15	18.75
Instability market price	50	62.50
Others(transportation,thieves,etc)	27	33.75
Total	247*	100.00

* Multiple responses obtained

Source: Field Survey, 2013.

The study also revealed that the average revenue and net farm income per hectare were ₦22, 808.58 and ₦11, 213.35 respectively. The result shows that the return to naira invested was 1.03 which implied that for every naira invested in groundnut production in Charanchi LGA a farmer will make a profit of ₦1.03. The problems encountered by the respondents included pest and diseases, instability market price and high cost of inputs.

Recommendation

Based on the findings, the study recommends the following

- Extension activities should be increased in the study area and they should focus on improve techniques of groundnut production and encourage farmers to use available resources efficiently and effectively.
- Groundnut producers should be granted access to loan facilities from formal financial institutions and simplifying the lending terms such as favorable interest rates and using guarantors instead of landed property for collateral security.
- Government should provide inputs at subsidized rate and in good time to the farmers.

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