

Full Length Research Paper

Socio-economic analysis of cowpea production in Kiyawa Local Government area of Jigawa State, Nigeria

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Abstract

The study examined socio-economic analysis of cowpea production in Kiyawa Local Government Area of Jigawa State, Nigeria. Six villages (Balago Duhuwa, Garko Kazuba, Kiyawa and Sabon Gari) were purposively selected. Questionnaire was used to collect information from 120 cowpea farmers. Data were analyzed using descriptive statistics and gross margin. The results revealed that, the respondents had a mean age of 38 years; mean household size of 9 persons, mean years of education of 5; mean years of experience of 15.5. All the producers were male, majority (88%) were married and having farming (67%) as their major occupation. They also produced an average of 836 Kg ha⁻¹. The profitability analysis has indicated a positive gross margin of ₦12, 306. Thus, it was concluded that, cowpea production in the area is profitable and the production could be enhanced through the provision of improved variety and other inputs like genuine agro-chemical spray against pest and diseases that diminishes its yield.

Keywords: Cowpea, Production, Analysis, and Socio-economy.

INTRODUCTION

Cowpea (*Vigna Unguiculata* Walp L), a multi-variety crop, is grown by farmers throughout the world (Singh and Rachie, 1985). The crop is believed to have originated from Central Africa, belonging to the family *fabaceae* and order *leguminiseae* (Tayo and Abaka-Ewusi, 1988). Major important growing countries include Nigeria, Niger Republic, Mali, Senegal, Ghana and Brazil (Quin, 1997).

Nigeria is reported as the largest producer and consumer of cowpea across the world (Kormawa, 2000). Indeed the country accounted for about 32 percent and 57 percent of world area under production and total production (yield) respectively. However Donli and Emechebe (1988) reported that substantial production comes from the drier regions of Northern Nigeria. The region had about 4 million hectares under cultivation with about 1.7 million tones of cowpea output annually (Musa, 2003).

According to Musa, (1994) food self-sufficiency is a cardinal objective that can only be achieved by increasing agricultural productivity, that entails increased income and hence increasing the general living condition of the farmers in Nigeria. Therefore modernization of agriculture in terms of increasing agricultural productivity and improvement in the living condition of the farmers and their communities is a concern shared among developing nations of the world (Lutz, 1994).

Cowpea is a major protein crop consumed by majority of the rural populace, most of whom are poor and unable to afford the commodity at reasonable prices throughout the year. It is largely produced and traded everywhere in Jigawa State, cowpea popularly called "poor man protein" is one of the best and most extensively grown grain legume abundantly produced in the state. Thus, adequate knowledge of its production and marketing is imperative. This will provide an empirical basis for production, trade policy formulation and adjustment in local, state and national planning which would eventually lead to increase production and productivity of the crop.

Study Objectives

The broad objective of the study was to assess the socio-economic analysis of cowpea production in Kiyawa local government area (LGA) of Jigawa State, Nigeria. However, the specific objectives are to:

- described the socio-economic characteristics of cowpea farmers in the study area,
- determine the profitability of cowpea production in the area
- examine the policy implication based on the study.

METHODOLOGY

Study Area

Kiyawa LGA is situated in the south-eastern part of Jigawa State, between latitude 11.42°N and longitude 9.40°E. Its landform is characterized by undulating land with sand dunes of variable sizes spanning across the northern part of the LGA. The south-eastern part consist of fine textured clay to sandy loam soil that is grayed and have some humus content that favored arable agricultural practices in the area. It has an average annual rainfall of about 550mm. Mean annual temperature of 23.75°C and average relative humidity of about 45% has been recorded. The area lies within the Sudan Savannah type of vegetation (J.SDSD, 2005).

Method of Data Collection

Six (Balago Duhuwa, Garko Kazuba, Kiyawa and Sabon Gari) out of the eighteen villages where the crop is highly grown were purposively selected based on the intensity of cowpea production and trading. Twenty (20) cowpea farmers were randomly selected from each village making a total of one hundred and twenty respondent selected for the study. Questionnaires were used to collect primary data from the respondents while secondary information from journal, textbooks and bulletins from ADP compliment in the study. Data were collected on socio-economic characteristic of the farmers such as age, marital status, household size, types of education, years of experience in cowpea farming and cost and revenues accrued to cowpea production venture.

Method of Data Analysis

Descriptive statistics involving mean, standard deviation, minimum and maximum variation were used in the analysis of the data. Additionally, gross margin analysis was employed to assess the profitability of the cowpea production.

Model Specification

Gross Margin

Gross Margin, $GM = GR - TVC$

Where,

GR = gross revenue (the value of cowpea output produced);

TVC = total variable costs (the costs of all variable inputs)

An enterprise is considered profitable if the gross margin is positive. This implies that the GR is greater than TVC. If the GM is negative the enterprise is not economically profitable. The higher the gross margin, the higher the level of profitability of an enterprise and vice versa. Gross margin was used for cowpea farmer's profitability determination.

RESULTS AND DISCUSSION

The socio-economic characteristics of the cowpea farmers include age, household size, types of education, and years of experience in cowpea production. Others are gender, marital status, income level and major occupation.

Table 1: Age, Household size, Years of education, Years of experience and Income level of Cowper Farmers

Variable	Min.	Max.	Mean	SE
Age	18	67	38	0.82
Household Size	2	20	9	0.49
Years of Education	0	15	5	0.55
Years of Experience	1	40	15	0.80
Income Level/ annum	48,710	360,570	160,567	1,926

Source: Field survey, 2006

Table 1 shows that, cowpea farmers have a minimum age of 18 and maximum of 67 with an average age of 38. This implies that, the cowpea farmers are in their active ages that will allow them to undertake rigorous activities of cowpea farming. Similarly being youth they will accept and adopt innovation and new technologies faster. The standard error of 0.82 connotes narrow variability among their ages. The average household size of cowpea farmers was 9, with minimum of 2 persons but a household of up to 20 persons were obtained, this has relationship with family labor typified of the agrarian community. Similarly, it implies labor availability for cowpea farming and that the larger the household size the more the family labor and the lesser the cost of hired labor, this is in conformity with the position of Musa (2003) who reported that, the higher the household size the more the family labor and the less the cost of hired labor in production and marketing activities. Mean years

of experience in cowpea farming was 15 with a maximum of 40 years. This implied that, the cowpea farmers have relatively high years of experience as such they are expected to adjust to changing economic conditions and adopt new ideas to warrant efficient production.

Table 2: Gender, Marital Status and Major Occupation of Cowpea farmers.

Variable	Frequency	Percentage
Gender		
Male	120	100.00
Marital Status		
Married	105	87.50
Single	5	12.50
Major Occupation		
Farming	80	66.67
Trading	30	25.00
Civil service	10	8.33

Source: Field survey, 2006

Table 2 revealed that, all the cowpea farmers (100%) were male; the trend over male dominance in cowpea production could be attributed to the fact that the enterprise is labor and time demanding, which the female could not possibly provide, considering their social roles of confining to the domestic services. Similarly, majority (88%) were married while 12% were single, impliedly, the producers have family responsibilities bestowed on them in terms of financial and social commitments. The results further indicated that, majority of cowpea farmers (67%) engage in the production of these crops as full time occupation, while about a quarter are traders and only 8% are in the civil service.

Table 3: Budget for one hectare of Cowpea Production

Budget item	Unit price (N)	Quantity	Total Value (N)
Seed	70	15 kg	1,050
Fertilizer	2500	2 bags	5,000
Pesticide	800	4 litres	3,200
Labor	400	70.3 man days	28,124
Sack	60	8.0 unit	480
Total Variable cost			37,854
Total output	60	836	
Gross Income			50,160
Gross Margin			12,306

Source: Field Survey, 2006

The result in Table 3 revealed that, average output of 836 kilograms of cowpea was obtained per hectare; N60 was the average price per Kilogram of cowpea while the total revenue or gross income was of N 50, 160. Total variable

cost of cowpea production per hectare was N37, 854 therefore the gross margin per hectare was N12, 306. Since the total revenue is greater than the total variable cost, then value of gross margin was positive and thus implying that, cowpea production in the study area was profitable. The result agrees with the finding of Musa (2003) who reported the production of cowpea was profitable in Nigeria. Return on Naira invested was 0.33 meaning that for every naira invested about 33 Kobo accrued as profit or the investment will breakeven for money borrowed at an interest rate of 33%.

CONCLUSION

An average of 836Kg ha^{-1} of cowpea was produced by the farmers in the study area. The production of the crop in the area was found to be one of the major occupations providing revenue to a large number of people. This could be attributed to the amount of profit realized in the production business. The socio-economic characteristics that enhance production were age, marital status and level of income. Other factors such as formal education, household size, years of experience and major occupation differ among the farmers. It could also be concluded that, cowpea production in the study area was found to be profitable.

RECOMMENDATION

Based on the findings of this study, the following recommendations are therefore advocated:

- Production and productivity of cowpea could be improved through development of high yielding varieties.
- Genuine and adequate input of production should be made available at a reasonable and affordable prices as at when due in order to enhance the production and the productivity of the enterprise.
- In order to increase and encourage cowpea production, there should be fabrication, perfection and introduction of affordable, simple and easy to operate and adaptable labor-saving machines and equipments especially in the operations such as planting, weeding and harvesting of the crop to enhance output and profit.

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