

PROFITABILITY ANALYSIS OF SMALL SCALE URBAN CROP PRODUCTION IN THE FEDERAL CAPITAL TERRITORY (FCT), ABUJA, NIGERIA.

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ABSTRACT

The paper assessed the profitability of urban crop production in the FCT, Abuja. Primary data were used for the investigation. The primary data were obtained through the use of structured questionnaire. 80 farmers were purposively sampled and 60 were randomly selected for the study. Descriptive statistics and gross margin analysis were employed in the analysis of the data. The study revealed that the gross income was ₦130,308.80. The total variable cost item was ₦62,722 while the gross margin was ₦67,585.92 .88. Based on the findings, it was recommended that the farmers in the study area should be encouraged to form cooperative groups, pull their resources together and expand their level of production in order to make more profits. The Agricultural Extension Agents in the ADPs should intensify efforts in creating urban agriculture awareness and promotion so as to relieve the urban people in food supply-demand gap so as to generate more income for the urban farmers.

Key words: Profitability, small scale, urban, crop production.

INTRODUCTION

Urban agriculture could be regarded as any form and scale of agricultural activity that happens within the boundaries of urban environment (Visser, 2003). It is a farming activities located within or on the fringe of a town, a city or urban metropolis, which grows and raises, processes and distribute a diversity of food products found in and around that urban area. Urban agriculture is one strategy where recent research suggests that food insecurity could be tackled (Mougeot, 2005). Urban agriculture has been shown to be an important source of food in developing countries and a critical food insurance for poor urban households. Urban agriculture also affects household nutrition as it provides a source of fresh, locally grown crops that meet the micronutrient requirement of households' diets (FAO, 2001). In the past, urban agriculture has not been given much attention, but due to continuous growth in population, food insecurity and poverty, its potential is beginning to be realized. In a place like the Federal capital Territory, farmers are making best use of little available land for productive purposes. Urban agriculture is a long established livelihood activity that occurs at all levels, from the backyard garden to the large agribusiness located in the fringe of the city (Mougeot, 2005). UN-HABITAT (2006) reports that the percentage of urban residents in -Sahara Africa is expected to rise from 30 to 47 percent of the total population. This will bring about serious challenges for urban policy, especially when trying to ensure households' adequate food supply.

Urban poverty has been a low priority on research and development agenda of Nigerian government. For decades, research has been dominated by rural development and rural poverty alleviation. The widespread idea that urbanization is spreading up prompted renewed interest in urban farming issues. In 1970, developing countries' level of urbanization was 25%, in 1994, which has increased to 37% and it is projected to be 57% in 2025 (UNICEF, 1999). The depth and severity of extreme urban poverty resulted in reduction in the quality of life in urban slums and overstretched urban services (Osinubi, 2003). Lack of information on the profitability of the small crop production enterprise as well as on its food contribution to the urban centres is assumed to be the principal reason for the non-recognition of its importance by the policy makers and relevant institutions and hence the resulting little attention given to its improvement in the country. The purpose of this paper is to contribute to the literature on the relative economic importance of the small scale urban crop production enterprise in the FCT farmers by describing and assessing its socio-economic characteristics and profitability.

METHODOLOGY

This study was conducted in Bwari Local Government Area and Karshi, Abuja Municipal area Council of the Federal Capital territory (FCT), Abuja. The study area lies between latitude 7° 32' E and longitude 8° 49' N of the equator. Abuja has a population of 778,567 people (NPC, 2006). The total land area is about 2, 824 square miles (7,315 square kilometre). Bordering the FCT is the Kaduna State to the north, Nassarawa to the east, Kogi to the southwest and Niger to the northwest (Fejokwu, 1992). The FCT is divided into six area councils namely, Abuja Municipal, Gwagwalada, Abaji, Kuje, Bwari and Kwali. There are mainly two seasons, rainy season and dry season. Between these seasons is a brief interlude of harmattan from the north-east trade wind. The annual rainfall is between the range of 1100 mm and 1600 mm. The dominant vegetation of the territory is classified into grassy savannah, savannah woodland and shrub savannah. Majority of the people in the state are small scale farmers and the rich are diversified soil condition enable agriculture to thrive in the state (Fejokwu, 1992).

A reconnaissance survey was first conducted. During the reconnaissance survey, it was found that Abuja Municipal Area Council and Bwari were highly involved in small scale urban agriculture. Two local government areas (Bwari and Karshi) were purposively selected for the study. Forty crop farmers were purposively sampled from each of the two local government areas and thirty farmers were randomly selected from each local government area. This selection was due to the fact that the two local government areas have very close number of farmers engaged in urban agriculture. In all, a total of 60 urban farmers were used for the study.

Primary data were used for the study. The sample for the study was selected using structured questionnaire. The information collected included the socio-economic data such as sex, age, marital status, level of education, household size, farm size and years of farming experience. Also, market information such as cost of inputs as well as total sales was gathered.

ANALYTICAL TECHNIQUES

The following tools of analysis were used for this study:

Descriptive statistics: This involved the use of central tendency like the mean, frequency distribution and percentages. It was used to summarize the data collected.

Gross Margin Analysis: Gross margin (GM) is the difference between gross income and total variable cost (TVC) of production (Olukosi and Erhabor, 1988). It was used to determine the costs, returns as well as profitability of urban farmers in the study area. The model for gross margin analysis is as below:

$$GM = \sum_{i=1}^n P_{yi} Y_i - \sum_{j=1}^m P_{xj} X_j$$

Where:

Y_i = Enterprise's Product(s) (where $i = 1, 2, 3, \dots, n$ products)

P_{yi} = Unit price of the product

X_j = Quantity of the variable inputs (where $j = 1, 2, 3, \dots, m$ variable inputs)

P_{xj} = price per unit of variable inputs.

Σ = Summation (addition) sign

The total variable costs (TVC) include items like total cost of labour, fertilizer and seed.

RESULTS AND DISCUSSION

Socio-economic characteristics of the farmers.

The socio-economic characteristics such as age, household size, farm size, educational status, annual income and major occupation.

Age of the respondents: The study revealed that the age of the respondents ranged from twenty eight years to sixty three years, with an average age of 43. Majority of the respondents (78%) were within the age of 31 years and 50 were above 50 years of age. Only 10% of the respondents

Level of education of the respondents: The educational level of the respondents is presented in table 1. The study revealed that the level of education of the respondents in the study area is high. About 83% of the respondents had one form of education or the other. Only about 17% had no formal education.

Years of experience in crop production: The years of experience of the respondents in crop production ranges from 4 to 24 years. Majority of the respondents had years of experience of between 1 and 16 years. The average years of experience was 14 years. Only about 3% of the respondents were planting crops for the first time.

Farm size of the respondents (ha): The farm size of the respondents ranges from 0.4 hectare to 2.1 hectares. The average farm size of the respondents was 0.8 hectare. Majority of the respondents (48%) had farm size of between 0.4 hectare and 1.5 hectares. Only 5% of the respondents had farm size greater than 2 hectares.

Annual income of the respondents (₦): The study revealed that about 7% of the respondents had annual income of less than 100,000.00 per annum while about 43% had between 101,000 and 200,000.00 per annum. 50% of the respondents had annual income of greater than 200,000 naira per annum.

Household size of the respondents: The number of people in a household ranges from 3 to 18. The average household size was 9 people per household. About 15% of the respondents had household size of between 1 and 5 people while only 5% had household size of between 16 and 20 people. The household size of the respondents is presented on Table 1.

Analysis of Costs, Returns and Profitability of Urban Crop Producers in the FCT.

The costs and returns analysis as well as profitability per hectare is presented in Table 2. In determining the costs, returns and profitability, the factors of production were valued at their prevailing market prices at the period of the survey (November, 2009).

Gross income: The average gross income of the respondents per hectare was ₦130,308.80.

Variable Cost Items: These are costs of variable inputs such as labour, seed, fertilizer and agrochemicals.

Average cost of labour: The total variable costs of labour per hectare was ₦19,104 on the average. Family labour contributed about 23% of the total labour while hired labour contributed 77%. Total labour contributed about 30.5% of the total cost of production per hectare.

Average cost of seed: The average cost of seed per hectare was ₦5,100.00. Seed contributed 8% of the total cost of production per hectare in the study area.

Average cost of fertilizer: Fertilizer accounted for 2.1% of the total cost of production per hectare. Majority of the farmers (92%) did not used the recommended rate of fertilizer in their production. The average cost of fertilizer per hectare was ₦13,164.80.

Average cost of other planting materials: The cost of other planting materials such as cassava stems and yam sets was ₦20,696.48. Cost of planting materials contributed about 33% of the total cost of production.

Total variable cost of production: The total variable cost of production per hectare was ₦62,722.88.

Gross margin per hectare: The gross margin per hectare was ₦67,585.92

Return per Naira invested: The return per naira invested was ₦2.08. This implies that for every naira invested, a gain of ₦1.08 was made in the FCT. This shows that crop production in the study area is very profitable.

The study revealed that the average gross margin of crop producers in the study area was ₦67,585.92. The findings of Ayodele, *et al.* (2007), in his research on 'egusi' melon in Ibadan, made a profit of ₦3,619.01 and ₦5,674.81 per hectare at various stages. Yusuf *et al.* (2008) made a profit of ₦3,799.87 per hectare from 'egusi' melon production. The variation in the profitability of different researchers per hectare may be attributed to the differences in the nutrient composition of the soil, the crop type and the management practices employed by the researcher.

CONCLUSION AND RECOMMENDATIONS

The study has shown that crop production in the FCT is very profitable based on the returns per naira invested. In view of the major findings, the following recommendations have been advanced:

1. Almost all the respondents in the study area operates on a small scale production, this may be attributed to the high cost of inputs and scarcity of land, the farmers should therefore be encouraged to form cooperative groups, pull their resources together and expand their level of production in order to make more profits.
2. The Agricultural Extension Agents in the ADPs should intensify efforts in creating urban agriculture awareness and promotion so as to relieve the urban people in food supply-demand gap and generate more income for the urban farmers.

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APPENDIX XXXIX

Table 1. Socio-economic characteristics of the respondents

Age (years)	Frequency	Percentage
< 30	7	11.67
31- 40	20	33.33
41- 50	27	45.00
> 51	6	10.00
Total	60	100.00
Level of education		
Primary	14	23.33
Secondary	16	26.67
Tertiary	7	11.67
Quranic	13	21.66
No formal education	10	16.67
Total	60	100.00
Years of experience in crop production		
1 -8	38	63.33
9 -16	14	23.33
17 -25	6	10.00
No experienced	2	3.33
Total	60	100.00
Farm size of the respondents (ha)		
< 1.0	19	31.67
1.0 -1.5	29	48.33
1.6-2.0	9	15.00
>2.0	3	5.00
Total	60	100.00
Annual income (₦)		
<100,000	4	6.70
101,000 -200,000	26	43.30
>200,000	30	50.00
Total	60	100.00
Household size		
1 - 5	9	15.00
6 - 10	30	50.00
11 - 15	18	30.00
16 - 20	3	5.00
Total	60	100.00

Table 2: Average costs, returns and profitability of crop producers per hectare

Items of costs and returns (₦)	Total (₦)
Gross income	130,308.80
Input costs:	
Family Labour	3,563.20
Hired labour	15,540.80
Total labour	19,104.00
Cost of seed	5,100.00
Fertilizer cost	16,164.80
Cost of other planting materials	20,696.48
Total variable cost (TVC)	62,722.88
Gross margin (GM)	67,585.92