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Full Length Research Paper

Profitability of honey production in Ogun State, Nigeria

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The study was carried out in Ogun State. The study analyzed the profitability of honey production in the study area. Information was elicited from 120 respondents by simple random sampling with the aid of a well-structured questionnaire and interview schedule from where input and output data were obtained. The data collected were analyzed using descriptive statistics and budgetary techniques analysis. The result of the socio-economic variables showed that 41.7% of the respondents were within a productive age-range of 41-50 years. It further revealed that there was gender insensitivity and discrimination (between male and female) in honey production because 79.2% were males while 21.8% were female. Honey production in the study area is profitable as a beekeeper on the average realizes 120 liters of honey per production cycle and a net farm income of N131695.01. Also, a return on investment per naira was N1.56. The identified prominent problems include pests and predators, theft of hives and honey, the inadequacy of bee equipment and inadequate capital. The study, therefore, concluded that as honey production attracts the attention of a greater percentage of the populace these days because of its profitability and a viable complementary activity/quick returns.

Keywords: Profitability, honey, production, investment

INTRODUCTION

Beekeeping is an applied science of rearing honey bees for man's economic benefits which is also the mother source of honey production. Honey bees naturally build their nests in a hole of a tree, inside a cave and under the roof of buildings, but traditionally, people also keep bee colonies; beekeeping has been in practice in many part of the world (Alberg, 2004). Honey production has been identified as one of the most lucrative enterprises in many parts of the world, so much is its use and consequently it is in high demand. In the United States, for example, about 110 million kilograms of honey worth $24,200,000.00 is produced each year (Canadian Statistics, 2003). Ethiopia is the ninth highest honey producing country in the world with a total production estimated at 44,000 tons valued at US$76.6 (€57.6) million and is the largest producer and exporter of honey and beeswax in Africa. This means that bee products are very important as a source of foreign exchange (Canadian Statistics, 2003).

In Nigeria, the process of honey cultivation and harvesting has increased and there is the need to rise to the challenges of the ever expanding honey demands by designing machines that will help the local fanners in solving this problem. The recent increase in the demand of honey is as a result of its great economic importance which ranged from numerous uses as food to medical relevance. Meeting this demand will require finding a way of extracting honey from the honey comb and should be different and more efficient from the obsolete and traditional methods in existence by the local beekeepers. This study describes the socio-economic characteristics of honey producers; estimate the costs and returns of honey production as well as identify the constraints associated with honey producers in the study area.

MATERIALS AND METHODS

A multi-stage sampling technique was used in this study. The first stage involved purposive selection of Abeokuta

zone of the Ogun state Agricultural Development programme (OGADEP) due to its perceived high honey production. In the second stage, four (4) blocks reputed for honey production was purposively selected from the zone which were Olorunda, Opeji and Ilugun, Ilewo. Meanwhile, third stage involved random selection of (8) cells from each block which were Imala, Ibara-orile, Joga-orile, Alaabata, Odeda, Osiele, Olorunda and Opeji. In the fourth stage, 15 honey producers were randomly selected from each of the 8 selected cells making a total of 120 honey producers based on ADP's beekeeper's list in Abeokuta zone.

Primary sources of data were collected through the use of well-structured questionnaire**,** and interview schedule conducted for respondents who could not read and write. The results of the interview were entered into the questionnaire. Data were collected on socio-economic variables such as age of the farmer, household size, years of experience, educational level of the farmer, sex, and number of hives while information was also collected on prices of inputs and output. Data was obtained on problems associated with honey production in the study area. Data collected was analyzed using descriptive statistics such as frequency distribution and percentages which was used to explain socio-economic characteristics of honey producers in the study area and constraints associated with honey producers. Budgetary analysis was used to analyze the cost and returns of the honey production in the study area. In computing cost and returns, the Gross margin method was adopted and specified thus:

TC=TFC+TVC (i)
TR=Q x P (ii)
Gross Margin (GM) =TR-TVC (iii)
π=TR-TC (iv)

Where:
π = Net Farm Income
TR= Total Revenue
TC= Total Cost
TFC= Total Fixed Cost
TVC= Total Variable Cost
Q = Quantity of output in liters
P = Price per unit of output (₦)

Profitability ratio model

The profitability ratio analysis was used to determine the economic performance of the honey production enterprise.

Where:

Return per capital outlay = Net Farm Income/ Total Cost
Operating cash expenses Ratio = Total Variable Cost / Total Revenue
Befit-Cost Ratio= Total Revenue/ Total Cost
Net farm income ratio = Net Farm Income/ Gross Margin

RESULTS AND DISCUSSION

The results of the socio-economic characteristics of respondents (Table 1) indicated that majority (41.7%) of the honey producers were between the age of 41 and 50 years. This implies that the respondents are able-bodied and still economically active which signifies increase in the output of honey and could help to generate substantial income for the household. The study also revealed that most (79.2%) of the honey producers were male while 20.8% were females. This suggests that honey production in the study area is dominated by male, this is line with the findings of Okoye and Agwu, (2008) that beekeeping is gender-specific involving male members of the household. Another perceived reason may be that female farmers recognize beekeeping as a dangerous enterprise because of the fear of bee stings.
The result further showed that half (50%) of the respondents had secondary education while 30.8% had Tertiary education. This implies that a good percentage of the households had formal education; this therefore shows the importance of formal education in enhancing the ability to adopt new technological packages developed by the research institutes and agricultural extension agent, which may improve efficiency and productivity of honey producers in the study area. This is in line with the finding of Abubakar, (2000) who opined that the ability and readiness with which a particular producer accepts or rejects an innovation depends on one's educational background. Education has to do with the ability to acquire new knowledge and use relevant information of technologies (Jamilu *et al.,* 2014). The beekeepers in the area had a household size of between 3 and 12 members with an average size of 5 members. Thus, the larger the household size, the higher the supply of family labour and the higher the output of honey. It has been established in a number of studies that large family size is a ready source of cheap and available labour (Ogu, 2010). The finding also revealed that more than half (59.2%) of honey producers had between 3 and 7 years of experience, while 36.7% of them had between 8 and 12 years of experience in honey production with mean experience of 7 years. This implies that most of the farmers have been in the business a long time. The higher the numbers of years spent in farming by a farmer, the more he becomes aware of new production techniques (Iheanacho, 2000) thereby increasing the level of his productivity. Also, 93.3% of the honey producers were married. This indicates that married dominate the enterprise and there may be availability of cheap family labour in the business that could be used in various honey productions and hence reduce the cost of labour in the enterprise.

Table 1. Socio-economic characteristics of respondents.

Variables	Frequency	Percentage
Age in years		
Less than 30.00	2	1.7
31.00 - 40.00	16	13.3
41.00 - 50.00	50	41.7
51.00 - 60.00	40	33.3
Total	120	100.00
Sex		
Male	95	79.2
Female	25	20.8
Total	120	100.0
Educational background		
No formal education	4	3.3
Primary	19	15.8
Secondary	60	50.0
Tertiary	37	30.8
Total	120	100.0
Household size		
Less than 2.00	4	3.3
3.00 - 5.00	70	58.3
6.00 - 8.00	45	37.5
12.00+	1	0.8
Total	120	100.0
Marital status		
Single	1	0.8
Married	112	93.3
Divorced	2	1.7
Separated	5	4.2
Total	120	100.0
Beekeeping Experience		
Less than 2.00	2	1.7
3.00 - 7.00	71	59.2
8.00 - 12.00	44	36.7
13.00+	3	2.5
Total	120	100.0

Source: Field Survey data, 2017

Table 2. Average Cost and Returns on Honey Production in Ogun State.

Items	%TC	Mean Amount (₦)
Revenue		
Quantity of honey (liters)		120
Price per liters(₦)		1800
Total revenue (TR)		216000
Variable Costs		
Cost of labour	30.6	25810.00
Cost of transportation	6.5	5479.16
Cost of packaging	2.0	1670.00
Total Variable Cost (TVC)	39.1	32,959.16
Gross Margin (TR-TVC)		183040.84
Fixed Costs		
Land rent	16.9	14241.60

Table 2. Contd.

Depreciation of fixed assets	44.0	37104.23
Total Fixed Cost(TFC)	60.9	51345.83
Total Cost (TC)=(TFC+TVC)	100.0	84305.99
Net Farm Income(NFI)=(GM-TFC)		131695.01

Source: Computed field survey data, 2017

Table 3. Profitability ratio analysis of honey production Ogun State.

Items	Profitability Ratio
Return per capital outlay	1.56
Operating cash expenses ratio	0.15
Benefit-cost ratio	2.56
Net farm income ratio	0.76

Source: Computed from field survey data, 2017

Table 4. Results of constraints associated with honey production in Ogun state.

Constraints	Percentage (%)	Ranking
Lack of access to bee keeping equipment	63.3	4
Pest and predators	94.2	1
Lack of good storage facilities	11.7	8
Inadequate market opportunities	34.2	5
Theft	80.0	2
Labour shortage	31.7	6
Lack of credit facilities	66.7	3
Granulated honey	5.8	9
Fire outbreak	2.5	10
Lack of access to land	28.3	7

Source: Computed from field survey data, 2017

Cost and returns analysis

The result of the costs and returns analysis (Table 2) showed that honey production enterprise is a viable and profitable business. The cost of depreciation asset accounted for about 44% of the total cost of production and this is followed by cost of labour which was 30.6% of the total cost of production. An average of 120 liters of honey was produced per farmer per production cycle at ₦1, 800.00 per liter with a gross farm income of ₦216, 000.00; total cost of production was ₦84, 304.99 while the net farm income was ₦131, 695.01. This result confirms that honey production is profitable in the study area.

Profitability ratio analysis

The profitability ratios on honey production were calculated to establish the profitability level of the enterprise and make necessary recommendation. Table 3 reveals that the return per capital outlay was 1.56 indicating that out of every ₦1 invested into honey production, about ₦1.56 was realized as a net farms income. Also the value of operating cash expenses ratio being 0.15 suggests that from every ₦1 realized from honey enterprise by the producers, they invested ₦0.15 back into the enterprise as running cost. Meanwhile, benefit-cost ratio was 2.56 meaning that as the farmers invested ₦1 into the business, they got ₦2.56 as total revenues. More also, net farm income ratio was 0.76 implying that from every ₦1 realized from honey production, a sum of ₦ 0.76 was got as net farm income. It can be deduced that honey production in the study area was productive and profitable.

Constraints associated with honey production in Abeokuta North and Odeda local Government, Ogun State, Nigeria

The constraints encountered by honey farmers in the study area are presented in (Table 4). The results indicate that pest and predators were the most (94.2%) pronounced constraints associated with honey producers in the study area followed by theft (80.0%). This is in line with Mbah, (2011) who established that pests and predators such as wax moth, wall gecko, lizards and termites are major threat to honey production. The result

reveals that 66.7% of the respondent indicated that inadequate credit facilities as a problem associated with honey production in the study area. Inadequate credit facilities were another problem facing honey production because it deprives farmers from accessing modern inputs and reduce the intensity of use of technologies. This supports the findings by Ouma *et al.* (2006) that prominent problems affecting the use of improved agricultural technologies by farmers is access to credit. Farmers who have access to credit are more likely to adopt improved technology innovations compared with farmers who do not have access to credit. Also 63.3% of the respondent agreed that lack of access to bee keeping equipment's was one of the problems affecting their effectiveness in the honey production business and which also affected the output of honey in general.

Conclusion

The results of the study revealed that majority of honey producers in the study area were male in which most of them had secondary school education. However, cost of depreciation asset constituted a larger percentage of the total variable cost, which implies it is the most expensive resource in honey production. Nevertheless, honey production is a very rewarding and profitable enterprise if well managed in the study area. The identified constraints, which if resolved would further increase the output of honey, were inadequate finance, lack of beehives equipment's, theft, pest and predators. The study therefore recommends that honey producers in the study area could enhance profit by reducing cost on depreciation asset through modern technology.

Authors' declaration

We declared that this study is an original research by our research team and we agree to publish it in the journal.

REFRENCES

Abubakar H (2000). "Economic analysis of Egg Production in BirninGwari, Jama'a and Igbai Local Government Areas of Kaduna State" Unpublished M.Sc. Dissertation, (2004) Department of Agricultural Economics and Rural Sociology, Ahmadu Bello University, Zaria, Nigeria.

Alberg E (2004). The Threat to the American Beekeeping Industry. Unpublished Ph.D Thesis Department of Entomology. The Natural History Museum, Britain. Located in South Kensygton, London. Carl J Wenning (1998). Beekeeping Strategies. Gallow Publishers. TX USA. Pg 17-25.

Canadian statistics (2003). "Honey production", Canadian Bee Journal, 35(4): 61-72.

Iheanacho AC (2000). Pattern and Technical Efficiency of Resource Use in Millet Based Crop Mixtures in Borno State of Nigeria. Research Journal of Science, 6(1 and 2): 97- 103.

Jamilu AA, Abdul – Aziz H, Jafuru A K, Sani BM, Audu SC (2014). Factors Influencing the Adoption of Sisakawa Global Maize Production Technologies among Smallholder Farmers in Kaduna State, Nigeria. Journal of Agricultural Extension 18(1): 73 – 83.

Mbah SO (2012). Profitability of Honey Production Enterprise in Umuahia Agricultural Zone of Abia State, Nigeria. Int'l Journal of Agric. And Rural Dev. Volume 15 (3):1268-1274.

Ogu NF (2010). "Comparative study of the profitable of yam Hawking and stall yam marketing in Minna Metropolis, Niger State Nigeria", Unpublished B. Agric Project presented to the Department of Agric Economics and Extensions, Federal University of Technology Minna, p. 40.

Okoye CU, Agwu EA (2008). Factors Affecting Agro- forestry Sustainability in Bee Endemic Parts of South-eastern Nigeria. Human Ecology, Vol. 26 (2): 132 – 154.

Ouma JO, De Groot H, Owour O (2006). Determinants of Improved Maize Seed and Fertilizer Use in Kenya: Policy Implications. Paper presented at the International Association of Agricultural Economists' Conference, Gold Coast, Australia, August 12th – 18th.