

Profitability Analysis of Honey Marketing in Ganye and Toungo Local Government Areas of Adamawa State, Nigeria

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Abstract: The profitability of honey marketing in Ganye and Toungo Local Government Areas of Adamawa State, Nigeria was evaluated. The objectives of the study were to: identify the socio-economic characteristics of the honey marketers; determine profitability of honey marketing in the study area and the influence of some socio-economic characteristics and cost and returns to the respondents. Multi-stage sampling method was used to select a sample of 100 marketers who were served with structured questionnaires for their responses. Descriptive statistics, gross margin analysis and multiple regression analysis were used to analyse the data. The result of the study showed that most (66%) of the respondents were in their middle age, 89% were males while 81% were married and 51% attended some level of formal education. The profitability analysis showed that an average marketer earned ₦12,161.20 as gross margin per month. The result also revealed that the regressors explained about 50.2% in the variability of the honey revenue. It is therefore recommended that honey marketing association should be formed to assist in maintaining stable prices in addition to approaching commercial institutions for credit. People both male and female should be encouraged to participate in the production and marketing of honey in the study area.

Key words: Profitability analysis % Honey % Marketing % Marketers % Adamawa State

INTRODUCTION

Marketing is the sum total of all business activities involved in the movement of commodities from production to consumption. It is the method of bringing the impersonal forces of demand and supply together irrespective of the location of the market [1]. Arene [2] defined market as an area or setting in which price making forces (demand and supply) operate. Marketing according to Nwoke [3] is the process of planning and executing the conception, pricing, promotion and distribution of ideas, goods and services to create exchange that satisfy individual and organisational objectives. It involves the provision of time, form, place and possession utilities of commodities.

Honey is defined as a natural unrefined sweet food available in commercial quantities produced by bees from nectar of flowering plants. It is a viscous liquid with

different degree of thickness which accounts for the colour and the taste [4]. Honey, the primary product of bee-farming is used locally for food, as sweetener and for preparing herbal portion [5]. Apart from the direct consumption of honey, it is used for dressing of wounds, as anti-diarrheal drug, in alcoholic drinks, tobacco curling, bakery and confectionary and manufacturing of cosmetics [6]. Honey is an essential commodity. It has longed been used as one of man's most highly desired foods [7]. Honey is used in cooking, baking, as a medicine, as addition in various beverages and as a sweetener in some commercial beverages. As an antimicrobial agent, honey may have the potential for treating variety of ailments [8].

Investment in apiculture to battle poverty is not uncommon in developing countries. In 2007, Nigeria and Uganda respectively provided farmers with a honey factory to produce 1000 litres and 500 litres of honey per day respectively [9]. This study therefore (I) describe

the socio-economic characteristics of honey marketers in the study area; (ii) estimate the cost and returns of honey marketers in the study area; (iii) determine the influences of some socio-economic characteristics and costs variables on sales revenue.

MATERIALS and METHODS

Study Area: The study was conducted in Ganye and Toungo local government areas of Adamawa State, Nigeria. Ganye and Toungo local government were purposively selected because of their unique nature in honey marketing. Ganye local government lies between latitude 9°8'N and longitude 11°5' East. It has a land mass of 2291.42 km² and a population of 164,087. While Toungo local government lies between latitude 8° 7' and longitude 12°3' East. It has a land mass of 5479.5 km² and a population of 52,040 [1, 10].

The mean annual temperature of the study area is 26.7°C while the mean annual rainfall ranges between 1100mm and 1600mm with a distinct dry season which begins in November and ends April and the wet season begins in April and ends in October or sometimes in November. The areas are located within the Guinea Savannah zone of the Nigeria's vegetation zones [1].

Method of Data Collection: A multi stage sampling technique was used to select 100 honey sellers in the study area. The study area which comprises of Ganye and Toungo local government areas is made up of nine districts. Five districts namely Ganye, Sugu, Gurumpawo, Toungo and dawo districts were purposively selected for the study because they are notable in honey production and marketing. From each district, two villages namely Santasa and Sangasumi, Sanyigmi and Gamu, Dalebbi and Dimgam, Lainde-citta and Tipsan, Dawo and Gumti from Ganye, Sugu, Gurumpawo, Toungo and Dawo respectively were purposively selected because of their popularity in honey production and marketing from where 100 respondents were selected using a snow ball sampling technique for the study.

Analytical Technique: The simple descriptive statistics are frequency distributions and percentages. These were used to describe the socio-economic of honey marketers in the study area.

Gross margin analysis was employed to determine the profitability of honey marketing in the study area. Gross margin was mathematically expressed as;

$$GM = GR - TVC$$

where:

GM = Gross margin in Naira;

GR = Gross Revenue in Naira; and

TVC = Total Variable Cost in Naira

Some of the factors that influence the sales revenue of honey marketers is determined quantitatively using the production function analysis with the use of ordinary least square multiple regression analysis (OLS) under the assumption that the data collected fulfilled the assumption of multiple regression models. These assumptions include absence of multicollinearity among independent variables, normally distributed error term with zero mean and constant variance and non-autoregression disturbance [11].

The general functional form postulated for honey marketers in the study area is implicitly presented by;

$$Y = F(X_1, X_2, X_3, X_4, X_5, \dots, X_n + U_i)$$

where:

Y = Sales revenue in Naira

X₁ = Age in years

X₂ = Sex

X₃ = Level of education

X₄ = Marketing experience in years

X₅ = Cost of transport in Naira

X₆ = Marketing tax in Naira

X₇ = Processing cost in Naira

X₈ = Labour in mandays

The linear, exponential, semi-log and double log functional forms were fitted to data collected. The estimated functions were evaluated in terms of the statistical significance of R² as indicated by F-value. The significance of the coefficients as given by the t-values, the signs of the coefficient and the magnitude of the standard of errors.

RESULTS and DISCUSSIONS

Socio-Economic Characteristics of the Respondents:

Table 1 reveals that 66% of the respondents were between 30-49 years. This reveals that most of the marketers are in their middle age, while 7% can be regarded as aged. This age distribution can have positive impact on the business aggressiveness of respondents; It also shows that 89% of the respondents were males while 11% were females. The dominance of male in honey marketing

activities may be due to stress in primitive wild hunting system of beekeeping, harvesting and transportation from the source, which predisposes only the men to practice. This agrees with Onyekuru *et al.* [12] who states that most of those involved in honey enterprise are of male folks. Analysis also reveals that 81% of those involved in honey business were married living with either their husbands or wives, this may have positive effect on the availability of family labour though 14%, 4% and 1% were single, widowed and divorced respectively. This implies that those involved in honey business is either a husband or a wife.

Table 1 also revealed that 30% of the respondents did not attend formal education, 19% attended adult education. Hence low level of education might negative impact on the business. Twenty eight percent of the respondents attended primary education, 22% attended secondary education and only 1% attended tertiary education respectively. The implication of this is that the low educational level may tend to affect the production and marketing of honey in the study area. It also agrees with the study conducted by Onyukuru *et al.* [12] which reveals that most of those involved in honey enterprise are of lower educational background according to him this trend will not favour the enterprise. Hence according to Quisumbing and Meinzen-Dick [13] many poor countries notably in sub-saharan Africa have low level of education and that improving their education would probably increase agricultural productivity and reduce poverty.

The table 1 further shows that 74% of the respondents interviewed are into farming. This implies that most of the respondents spend more time in farming activities and are professional farmers. The study revealed that most of the respondents (55%) were between 6-10 years engaged in marketing of honey while 19% of the respondents were between 1-5 years, 17% of the respondents were between 11-15 years, 6% of the respondents were between 16-20 years of honey marketing and only 3% were more than 20 years in the business, which indicates that the marketers have spent relatively long period in the business. This implies that the higher the years of experience the more knowledgeable in the marketing techniques as well as rational in information utilization.

Source of Capital: The study shows that most (78%) of the respondents use their personal savings as source of their capital, while 20% of the respondents got their

Table 1: Socio-Economic Characteristics of the Respondents

Parameters	Frequency (n=100)	Percentage
Age		
20 – 29	6	6
30 – 39	33	33
40 – 49	33	33
50 – 59	21	21
60>	7	7
Gender		
Male	89	89
Female	11	11
Marital Status		
Single	14	14
Married	81	81
Widow/Widower	4	4
Divorced	1	1
Educational Level		
No formal education	30	30
Adult education	19	19
Primary education	28	28
Secondary education	22	22
Tertiary education	1	1
Occupation		
Farming	74	74
Civil servant	21	21
Marketing of honey	5	5
Years of experience		
1 – 5	19	19
6 – 10	55	55
11 – 15	17	17
16 – 20	6	6
20>	3	3

Source: Field survey 2011

Table 2: Distribution of Respondents According to Source of Capital

Parameter	Frequency	Percentage
Personal savings	78	78
Cooperative	2	2
Friends/Neighbours	20	20
Total	100	100

Source: Field survey 2011

Table 3: Distribution of Membership in Cooperative Organisation

Parameter	Frequency	Percentage
Yes	14	14
No	86	86
Total	100	100

Source: Field survey 2011

capital from friend/neighbours only 2% got their capital from cooperative organization (Table 2). The implication of this is that the marketers have to make their own savings if they really want to continue in the business.

Table 4: Cost and returns of honey marketed per month

Item	Amount (₹)	% of TC	% of Total sales Revenue
Cost of purchase	2,074,850	72.92	51.09
Transport cost	174,385	6.13	4.30
Marketing Tax	90,455	3.18	2.23
Processing cost	131,765	4.63	3.24
Packaging cost	120,130	4.22	2.96
Labour cost	253,795	8.92	6.25
Total Variable Cost (TVC)	2,845,380	100	70.06
Total Revenue (TR)	4,061,500		
Gross margin (GM=TR-TVC)	1,216,120		
Total Variable Cost/Seller	28,453.80		
Total Cost/Seller	20,748.50		
Total Revenue/Seller	40,615		
Gross Margin/Seller	12,161.20		

Source: Field survey 2011

Membership of Cooperative: Cooperative union are formed for improving the socio-economic of its members this is usually common among farmers. In this study majority (86%) of the respondents are not involved in cooperative organization only 14% of the respondents are involved (Table 3). The implication of this is that most of the marketers may find it difficult to get access to credit facilities (loan) that will help them increase their capital and it will be difficult for them to have stable and uniform prices in the market since most of them did not belong to any cooperative union.

Gross Margin and Profitability Analysis: The gross margin and profitability analyses per month of honey sold in the study area as showed in Table 4 reveals that the cost of purchase account for 72.92% of the total cost while transportation cost took 6.13%. The cost of processing accounted for 4.63%, cost of labour accounted for 8.94%, cost of packaging accounted for 4.22% while marketing tax accounted for 3.18%. The profitability analysis shows that the average marketer incurred a total variable cost of ₹28,453.80 per month but earned average revenue of ₹40,615.00 per month of honey sold. This indicates that an average marketer earned ₹12,161.20 as gross margin, suggesting that honey marketing is a profitable venture in the study area.

The summary of the Estimated Relationship between Sales Revenue with Some Socio-Economic Characteristics and Cost Variables: production function postulated for honey marketers in the study area is presented in Table 5. Four functional forms were tried the equation of “best fit” was selected with the conformity to a priori economic criteria of the magnitude of the coefficient, magnitude of standard error, signs of significance of the coefficient of multiple determination, F-ratio and t-ratio. Here the linear function was the lead equation. The model shows that age(X_1), educational status (X_3), marketing experience (X_4) and transport cost (X_5), marketing tax (X_6), processing cost (X_7) have

Table 5: Relationship between Sales Revenue with Some Socio-Economic Characteristics and Cost Variables

Variables	Functional Form			
	Linear	Exponential	Semi-log	Double - log
Constant	41179.545(8488.874)**	4.623(0.098)*	-66646.766(23780.670)*	3.466(0.264)*
Age (X_1)	11.163(149.253)	0.000(0.002)	4480.734(13876.810)	0.084(0.154)
Sex (X_2)	-7520.796(3632.24)**	-0.097(0.042)**	-20372.833(11818.49)***	-0.276(0.131)**
Educational Status (X_3)	52.594(182.920)	0.000(0.002)	873.671(740.608)	0.007(0.008)
Marketing Experience (X_4)	2.880(310.274)*	-0.010(0.004)*	-13029.675(6867.691)***	-0.192(0.076)**
Transport cost (X_5)	0.880(1.124)	1.380(0.000)	-1871.580(4099.589)	0.003(0.045)
Marketing Tax (X_6)	6.515(1.815)*	6.220(0.000)*	25123.260(4128.680)*	0.264(0.046)*
Processing cost (X_7)	4.045(1.191)*	3.520(0.000)	17480.740(5144.076)*	0.159(0.057)*
Labour cost (X_8)	-0.335(0.813)	-2.090(0.000)	-2166.870(2982.328)	-0.027(0.033)
R ²	0.502	0.420	0.525	0.491
R ²	0.458	0.370	0.484	0.446
F - value	11.448	8.235	12.592	10.981

Source: Computer Analysed Result 2011

Degree of freedom = 99 Significant at 10% = ***, Significant at 5% = **, Significant at 1% = *

Figures in parenthesis are standard error

Table 6: Distribution of Respondents According to Problems Faced in Marketing of Honey

Problems	Frequency	Percentage
Price fluctuation	98	98
Capital	85	85
Poor road network	85	85
High cost of honey	78	78
Marketing information	65	65

*Multiple responses

Source: Field Survey 2011

positive coefficients except sex (X_2) and labour cost (X_8) which have negative coefficients. The coefficients with the positive signs indicate that an increase in the level of these variables would lead to an increase in the sales revenue of respondents *ceteris paribus*. The coefficient of sex (X_2) and labour cost (X_8) that had negative sign implied that increase in that input would lead to a decrease in sales revenue of respondents. Furthermore variables such as sex (X_2) is significant at 5% level while marketing experience (X_4), marketing tax (X_6) and processing cost (X_7) are significant at 1% level. These variables included in the model have explained 50.2% of the variability of sales revenue.

Constraints to Marketing of Honey: The identified constraints militating against marketing of honey in the study area include price fluctuation, capital, poor road network, high cost of honey, marketing information, high cost of transport, government policy as well as high cost of processing. It was found that 98% of the respondents were confronted with the problem of price fluctuation. This is because of fluctuation in the availability of honey may be due to changes in seasons which cause scarcity of honey during some certain season of the year. 85% said they are faced with the problem of capital and poor road network. The search for fund to boost the business according to the respondents is always difficult knowing that their source of income is mostly from their personal savings. This is due to the fact that most of the honey marketers do not belong to cooperative union and so accessing fund from finance house is difficult. They also have to go to the interior villages to look for honey product thereby battling with poor road network. 78% of the honey marketers are faced with the problem of high cost of honey because they lack adequate capital to buy more when it is expensive. Marketing information posed constraint to 65% of the respondents because of their low level of education they lack ways of getting information about the business (Table 6).

CONCLUSION

From the results obtained, it can be concluded that the study area has a great potential for honey production and the marketing is profitable. People both male and female should be encouraged to be involved in honey production and marketing in the study area.

Recommendation:

- C Young people both male and female who are well educated should be encouraged to participate in the marketing of honey in the study area.
- C Government and other agencies should encourage large scale production and marketing of honey in the study area.
- C The marketers should form themselves into cooperative union so as to access loan to increase their capital for the business.

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