

## DETERMINING COSTS-RETURNS PROFITABILITY IN HONEY MARKETING IN CROSS RIVER STATE, NIGERIA

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### ABSTRACT

This study examined costs-returns profitability in honey marketing in Cross River State. Honey contains 29 percent of protein, 19 percent of amino acid, vitamins and minerals for bodybuilding. Honey mixed with aloe vera gel is use for cure of dandruff and rapid hair growth. This mixture could also help to prevent hair breakage. Honey pollen enhances vitality and brings about a longer life span. Data were obtained from a random sample of 120 honey marketers in the study area by means of structured questionnaire. The first stage involved random selection of three (Obudu, Obubra and Odukpani) local government areas from eighteen local government areas in Cross River State, Nigeria. This was followed by random selection of three villages (Utugwang in Obudu Local Government Area, Ofudua in Obubra Local Government Area and Adiabo in Odukpani Local Government Area) in Cross River State. The respondents were randomly selected from each of the villages, 40 respondents were selected each from three villages, making a total number of 120 respondents. Data collected were analyzed using descriptive statistics and costs-returns analysis. Results from the analysis revealed that a net return of ₦1, 250.00 was realized with ₦0.22 made on every naira invested. Honey marketing is a profitable business, with attractive net return on investment. This study shows that honey marketers are faced with several problems in their marketing activities. These problems or constraints positively affect the efficiency of honey marketing in the study area. Notable among them are high cost of transportation, lack of capital, inaccessibility of formal credit source because lack of collaterals, lack of extension agents, lack of price information, poor market infrastructures and lack of roads maintenance/bad roads occupied 15%, 14.17%, 11.67%, 10%, 9.17%, 9.17% and 8.33% respectively. Hence, for efficient marketing of honey in the study area, these constraints must be drastically reduced to the barest minimum. This can be done through efficient policy formulation and implementation, proper supervision of honey marketing programme, effective extension services and proper agricultural financing. The constraints associated with the business as highlighted in this paper if tackled could pave a way to increase profit and this will alleviate poverty in Cross River State. However, based on the findings of the study it is recommended that honey marketers in the study area should form cooperative group(s) in order to obtain loans from bank(s) to increase their capital base for higher output.

**KEYWORDS:** Honey, Marketing, Profitability, Costs-Returns

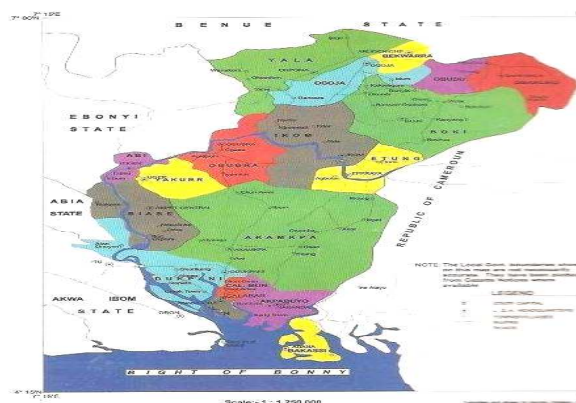
### INTRODUCTION

Honey-bee belongs to the order of insects called hymenoptera. A typical bee colony is made up of three types of bees: queen, workers and the male is referred to as the drone. The bee is said to be social insect because it exists together in large numbers within a colony. Ahmed et al (2004) revealed that it takes 3-4 months for honey to be ready for harvesting from the day the bees located the hive. They further stated that honey is ready or ripe for harvesting when the combs are capped with honey. A ripe honey should contain at least three quarters of cells capped with honey. Harvesting should not be done at an early stage until when it is ripe to avoid the harvesting of watery and low quality honey.

Onabe (2005) revealed that honey contains 29 percent of protein, 19 percent of amino acid, vitamins and minerals for bodybuilding. Honey mixed with aloe vera gel is use for cure of dandruff and rapid hair growth. This mixture could also help to prevent hair breakage. Honey pollen enhances vitality and brings about a longer life span. The most commercial product of bee is honey, which is sold at markets or hawked in the streets (Pinstrup et al, 1976; Oniah et al, 2005). Little is known about the profitability of this business engaged by marketers. It is against this background that this study attempt to explore, answers to the following fundamental questions; do marketers

engaged in honey marketing make profit? And what are the constraints they face in the business. To examine the aforementioned questions the objectives of the study were set as to:

- (i) determine the cost-return of honey businesses in the study area.
- (ii) identify the constraints faced by marketers in the study area.



**Theoretical framework: Farm Budget Model:** The farm budget as a tool of analysis is one of the oldest and simplest, used in farm management and production studies. It has been used in number of economic studies for analyzing the profitability of farm production practice. This method of analysis was used to achieve objective of the study. Different methods of budgeting exist. However, these methods can be subdivided into two major categories: (a) total or complete budgeting and (b) partial budgeting. A total budgeting is used when contemplating a complete re-organization of the entire farm business, while partial farm budget is used when the action intend to be implemented does not affect the whole farm, for example, introducing a new business or purchasing new equipment for the farm. The choice of any type of budgeting tool depends on the circumstance under which the farm business is taking place, goal achievement objective and convenience. This study used partial budget as an analytical tool. Basically, it involves operations leading to estimates of gross revenue and total cost for the same production period. The differences between two parameters are measure of profit or loss or net farm income for that period (Oluwole, 1970; Osifo and Anthonio, 1970; Olayemi and Oni, 1971). The purpose of the model is to identify the costs, returns, profitability or loss per hectare. The total revenue represents the value of the output from the farm (i.e. physical quantity of honey multiplied by the unit price). The total cost on the other hand, is made up of the variables and fixed components. Variables costs also called specific costs vary directly with the level of production and include expenditure on labour and transportation cost etc. Fixed cost known as overhead costs do not vary with the level of output and consists of cash expenses ( on repairs and maintenance, interest on loan) etc and non-cash adjustment like depreciation of farm tools, equipment and machineries. The computed returns and costs would be used to derive various measures of profitability including net return and return on capital invested in honey enterprise. The cost and return analyses used for the study were expressed as:  $NR=TR-TC$ .....equation (1)

$$TR=Q \times P \text{.....equation (2)}$$

$$RI=\frac{NR}{TC} \text{..... equation (3)}$$

where NR=Net Return on honey (naira)

TR=Total Revenue from honey (naira)

TC= Total Cost of honey (naira)

Q= Quantity of honey produced in (liters)

P= Price of honey per liter

Ri=Return on capital invested in honey (naira)

## METHODOLOGY

The research study was conducted for a period of one year from 1<sup>st</sup> January to 31<sup>st</sup> December, 2007 in Cross River State, Nigeria. The state occupies an area of about 22,342.176 square kilometers (Quarterly News Letter of the Ministry of Local Government Affairs, Cross River State, 2006). It is located at Latitude 5° 25'N and longitude 25° 00'E (Figure 1).

The soils of Cross River State are utisol and alifisol but predominantly utisol (USDA) or (FAO/UNESCO, 1974). Cross River State is producing milk and honey for the nation and it has the largest rainforest covering about 7,290 square kilometers described as one of Africa's largest remaining virgin forest harbouring as many as five million species of animals, insects (bees, butterfly, mosquitoes, locust, etc) and plants (MOFINES, 2004). Cross River State is located within the evergreen rainforest zone. There are two distinct climate seasons in the area, rainy season from March to October and dry season from November to February. The annual rainfall varies from 2,000mm to 3,424mm. The average temperature is around 28°C (CRADP, 1992a; CRADP, 1992b). Cross River State is characterized by presence of numerous ecological and zoo-geographically important high gradient streams, rapids and waterfalls. About 2,888,966 people inhabit the area of which the Efiks, Ejaghams and Bekwarras, are the major ethnic groups (The 2006 Population Census Spread state by state, In: MOFINES January-February, 2007). Fishing and subsistence agriculture are the main occupations of the people. Crops and animals are grown in the locality. Population depends largely on natural water sources for all their water-related activities as piped water supply is limited and grossly inadequate. Health services in the area require a lot of improvement. Level of hygiene in the rural communities is generally poor (Arene et al, 1991). Both primary and secondary sources of data were used. The secondary sources of data include Review of Annual Reports, books, census data, journals and statistical documents whereas the primary source of data was mainly from field survey. Data were obtained through administration of structured and semi-structured questionnaire to 120 randomly selected respondents for the study. This served as population for the study. The first stage involved random selection of three (Obudu, Obubra and Odukpani) local government areas from eighteen local government areas in Cross River State. This was followed by random selection of three villages (Utugwang in Obudu Local Government Area in the Northern senatorial district, Ofudua in Obubra Local Government Area in the Central senatorial district and Adiabo in Odukpani Local Government Area in the Southern senatorial district) in Cross River State. The respondents were randomly selected from each of the villages, 40 respondents were selected each from three villages, making a total number of 120 respondents all together. The types of data collected for the study include information on cost of honey, transportation and return from the sales of product. Also data were collected on constraints faced by honey marketers in the study area.

Cost-return analysis as described by Olukosi and Erhabor (1988) was used to estimate net returns, total cost of product and profitability of the business. Descriptive statistics (Mubyarto, 1965; Mc Clave and Sincich, 2000; Hamidu et al, 2006 and Adinya et al, 2007) were used to analyze the constraints. The cost and return analyses used for the study were expressed as:

$$\begin{aligned} &: \quad \text{NR} = \text{TR} - \text{TC} \dots \dots \text{equation (1)} & \quad \text{TR} = \text{Q} \times \text{P} \dots \dots \text{equation (2)} \\ & \quad \text{RI} = \frac{\text{NR}}{\text{TC}} \dots \dots \text{equation (3)} \end{aligned}$$

where NR=Net Return on honey (naira)  
 TR=Total Revenue from honey (naira)  
 TC= Total Cost of honey (naira)  
 Q= Quantity of honey produced in (liters)  
 P= Price of honey per liter  
 Ri=Return on capital invested in honey (naira)

## RESULTS AND DISCUSSION

The socio economic characteristics of respondents presented in Table 1 shows that honey sellers were all (100%) adults from above 21 years, however, 35.83 percent of the respondents were age between 41-50 years. This is closely followed by age between 31-40 years, which constitutes 34.17 percent. However, 13.33 percent of them were aged between 21-30 years. Only 16.67 percent of the respondents were aged between 51 years and above. The implication of the result is that most of the respondents were within the economically active age. These findings are synonymous with Asa (2003) that people in age groups of 41-60 are more economically active and independent than those in the age group of less than 21 years and above 60 years. The standard deviation of 70.71 from the mean 60

was obtained. Statistically, the coefficient of variation (CV) of 117.85 was also obtained. The result implies that age has positive influence in honey marketing in the study area. Data in Table 1 also reveals that 73.33 percent of the respondents were married while 14.17 percent were single. Only 12.50 percent of the respondents were widowed. The table also shows that the participation of married men and women in honey marketing is higher than single men and women. In addition, it was observed that the standard deviation of the factor from the mean of 40 was 41.50. Statistically, this factor was observed to have a coefficient of variation (CV) of 103.75. Further analysis of Table 1

Table 1: Socio-economic characteristics of respondents (honey sellers) in Cross River State

Age group (years)	Frequency of respondents in Utugwang in Obudu L.G.A.	Frequency of respondents in Ofudua in Obubra L.G.A.	Frequency of respondents in Adiabo in Odukpani L.G.A.	Total frequency	Percentage	Mean	Standard deviation (SD)	Coefficient of variation
21-30	5	4	7	16	13.33	30	13.98	46.6
31-40	12	14	15	41	34.17	30	13.98	
41-50	13	16	14	43	35.83	30	13.98	
51- above	10	6	4	20	16.67	30	13.98	
Total	40	40	40	120	100			
Gender								
Male	5	2	3	10	8.33	60	70.71	117.85
Female	35	38	37	110	91.67	60	70.71	
Total	40	40	40	120	100			
Marital status								
Married	33	28	27	88	73.33	40	41.50	103.75
Widowed	3	7	5	15	12.50	40	41.50	
Single	4	5	8	17	14.17	40	41.50	
Total	40	40	40	120	100			
Education al attainment								
OND/HND/BSC/MSC/Ph.D	1	2	1	4	3.33	30	33.40	111.33
JSSC/SSSC	8	5	4	17	14.17	30	33.40	
FSLC	22	27	30	79	65.83	30	33.40	
No education	9	6	5	20	16.67	30	33.40	
Total	40	40	40	120	100			

Source: Field survey, 2007

Table2: Average costs and returns of honey marketing in Cross River State

Cost/Return component	Value(Naira)
Cost of Honey at farm gate price ( <del>₦</del> 400.00 per liter of honey)	5,000.00(for 12.5 liter at <del>₦</del> 400.00 per liter of honey )from 1 <sup>st</sup> January to 31 <sup>st</sup> December, 2007
Labour inputs(man-days)	100.00
Transportation cost(naira)	250.00
Total fixed cost-depreciation(TFC)	75.00
Total Variable Cost(TVC)	185.00
Total Cost(TC=TFC+TVC)	5,600.00
Total Revenue(TR)	6,850.00
Net Return(Profit)TR-TC	1,250.00

Source: Field survey, 2007

Foot note:\* Net Return per marketer

Table 2 revealed that the total cost of honey was ~~₦~~5, 600.00. While the total revenue was ~~₦~~6, 850.00 the table also revealed that transportation cost was highest than other costs.

Table 3: Average profitability analysis of honey marketing in Cross River State

Profitability indicator	Honey(Naira)
*Net Return(TR-TC)	1,250.00
Return on investment (Ri) = $\frac{NR}{TC} = \frac{1,250}{5,600}$	0.22

Source: Field survey, 2007 Foot note:\* Net Return per marketer

The result in Table 3 indicated that the net returns on honey is ~~₦~~1, 250.00 with return on every naira invested of ~~₦~~ 0.22 is also positive indicating a profit from the business. The result of the study corroborate/ agree with the earlier contentious of Ahmed et al (2004) and Onabe (2005) which stressed honey marketing is a profitable business.

Table 4: Constraints against the efficiency of honey marketing in Cross River State

Constraints	Utugwang in Obudu	Ofudua in Obubra	Adiabo in Odukpani	Total frequency	Percentage
High cost of transportation	7	5	6	18	15
Lack of extension agents	4	3	5	12	10
Lack of roads maintenance/bad roads	5	2	3	10	8.33
Lack of price information	2	5	4	11	9.17
Lack of capital	10	4	3	17	14.17
Inaccessibility of formal credit source because lack of collaterals	3	6	5	14	11.67
Inaccessibility of formal credit source because high interest rate	3	5	3	11	9.17
Inaccessibility of formal credit source because of short repayment period	3	3	2	8	6.66
Poor market infrastructures	2	4	5	11	9.17
Lack of storage facilities	1	3	4	8	6.66
Total	40	40	40	120	100

Source: Field survey, 2007

revealed that 65.83 percent of the respondents had First School Leaving Certificate (FSLC), 14.17 percent of the respondents attended Junior Secondary School Certificate (JSSC)/Senior Secondary School Certificate (SSSC).

However, 3.33 percent of the respondents revealed that they attended high education; while 16.67 percent of the respondents had no formal education. Table 1 also disclosed that some of the respondents (16.67%) saw lack of educational training as a factor militating against efficiency of honey marketing. The standard deviation of 33.40 from the mean of 30 was obtained. The result implies that education was one of the most serious constraints against the efficiency of honey marketing in the study area. Of course this goes to confirm the earlier deduction by (Steward, 1975); he maintained that education acquired by farmers/ agricultural products marketers has a positive influence on farmers' /marketers' labour and income. Robin (1974) observed that, the large differential between the wages received by an unskilled farmer/marketer and the salary enjoyed by skilled high level manpower in agricultural production and marketing is attributed to skill differentials acquired through education. Adekunle (1978) stated that, technical and commercial education broaden the farmers/marketers intelligence and lay the basis for vocational training. In addition, it enables the farmers/marketers to perform the marketing activities/ tasks intelligently and with a full appreciation of their contribution to the final product.

The study revealed several constraints militating against the efficient marketing of honey in Cross River State. These constraints are presented on Table 4. From the table, the constrain of high cost of transportation, lack of capital, inaccessibility of formal credit source because lack of collaterals , lack of extension agents, lack of price information, poor market infrastructures and lack of roads maintenance/bad roads occupied 15%, 14.17%,11.67%,10%,9.17%,9.17% and 8.33% respectively. The result of the study agrees with the findings of Pinstrip *et al*, 1976; Ahmed *et al* ,2004; Oniah *et al*, 2005 revealed that some constraints militating against the efficient marketing of honey in Cross River State.

## CONCLUSION

Honey marketing is a profitable business, with attractive net return on investment. This study shows that honey marketers are faced with several problems in their marketing activities. These problems or constraints positively affect the efficiency of honey marketing in the study area. Notable among them are high cost of transportation, lack of capital, inaccessibility of formal credit source because lack of collaterals , lack of extension agents, lack of price information, poor market infrastructures and lack of roads maintenance/bad roads occupied 15%, 14.17%,11.67%,10%,9.17%,9.17% and 8.33% respectively. Hence, for efficient marketing of honey in the study area, these constraints must be drastically reduced to the barest minimum. This can be done through efficient policy formulation and implementation, proper supervision of honey marketing programme, effective extension services and proper agricultural financing. The constraints associated with the business as highlighted in this paper if tackled could pave a way to increase profit and this will alleviate poverty in Cross River State. However, based on the findings of the study it is recommended that honey marketers in the study area should form cooperative group(s) in order to obtain loans from bank(s) to increase their capital base for higher output.

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