

Evaluation of Honeybee Products Marketing in Nigeria: An Experience from Ganye Region, Adamawa State

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Abstract: As one of the oldest forms of farming in Nigeria and the most rarely understood by both the rural and urban farming population, apiculture business still remains one of the areas of agriculture that is grossly under explored. This study attempted to assess the marketing efficiency of honeybees' products in Nigeria focusing on Ganye domain for its role as the most producing area in the locality. Primary data were purposely collected from 140 respondents using structured questionnaire and supported by oral interviews and group discussions. Analysis using Descriptive Statistics and Marketing Efficiency (ME) revealed that males constituted majority (90.0%) of the marketers, with a larger proportion (41.4%) accounting for individuals within the age range of 30-39 years. While about 78.6% of the marketers were married, 37.1% were said to have had primary school certificate. The most experienced honey marketers had between 6-10 years in the field. Most (58.6%) of the marketers sourced their funds through personal savings. Of the containers used in the sales of beehive crops, one-litre bottle recorded the larger chunk (47.1%). Even at the local level of sales, the ME indicated a very efficient market (1862.3%), with the traditional producers serving as the major (68.6%) suppliers of the products. Prominent of the constraints recorded were poor road linkage and lack of government support. It is therefore, recommended that the government should intensify efforts toward formulating policies that would address these inadequacies with the hope of encouraging more participants in the business.

Keywords: Beehive, efficiency, honeybees, marketing, Nigeria, products,

Introduction

In an attempt to establish that apiculture or beekeeping has been an aged long branch of agriculture and a form of animal husbandry, Tsutsumi *et al.* (2011) reported that people recognised some thousand years ago that certain types of bees were associated with high priced honey in some parts of Africa, Asia and South America. In West Africa and Nigeria in particular, the *Apis mellifera adansonii* has been found to be dominant, with a very high stinging propensity and equally known to be highly prolific. Ayansola (2003) documented that about six products which possess extraordinary therapeutic and commercial values are produced by these bees. These hive crops are honey, beeswax, bee venom, probolis, royal jelly and pollen grains. All these are in high demand in the international market.

Ayansola (2003) reported that about 1500-2000 tonnes of honey are used annually in commercial confectionaries world-wide. In Africa, it is mainly used for brewing beer and occasionally as sweetener. The author concluded that of the estimated world consumption of honey, 90.0% is eaten directly, while the remaining 10.0% is used in various commercial and domesticated productions. With all this trend of development, beekeeping as a commercial venture is still largely unexplored and the demand for honey still keeps on increasing. Nigeria still imports the beehive crop from producer nations in order to meet up its demand. While Tsutsumi *et al.* (2011) noted that nations like China, USA and Argentina have been advanced in the beehive crops business because of the application of modern technologies in the production and marketing of these products, Nigeria and many African countries still employ the use of traditional methods in beekeeping. Ja'afar-Furo (2006) reported that there are no well-organised marketing outlets for the beehive crops, and the products are not processed or packaged well in attractive containers before sales. This has lowered the price of the products resulting in low income generation among the marketers.

Therefore, drawing from the aforesaid, this study attempted to describe the socio-economic characters of the beehive marketers in the area, determine the marketing efficiency of the hive crops, describe the marketing channels, and identify constraints associated with marketing of bee products with the aim of proffering remedies that could be of benefit to the policymakers and researchers alike.

Methodology

The Study Area

The Study was undertaken in Ganye Region of Adamawa State, Nigeria. It is located on the Latitude $8^{\circ} 26' 0''$ north of the Equator and Longitude $12^{\circ} 4' 0''$ East of the Greenwich Meridian. The area covers a landmass of 147,450 Km² with total population of 169,948 (NPC, 2006).

Majority of the people are farmers, and major crops grown are yam, maize, rice and sugarcane. Other sideline economic activities include petty trading, traditional beekeeping and marketing of beehive crops.

Sampling Technique and Data Collection

Data were collected mainly from primary sources, however, some information were also gathered from secondary sources which include Journals, internet, beekeeping books and bulletins, among others. As there was no registered association for the honeybee products marketers in the area, respondents were purposely selected and interviewed through contact on market days of the major markets. These are Ganye, Sugu, Gurumpawo, Timdore, Guso, and Yebbi. Similarly, for marketers who sell at homes, an indigene who served as a guide assisted in tracing respondents. At the end of the exercise, a total of one hundred and forty (140) marketers were involved.

Structured questionnaires were used. Trained enumerators applied interview method in retrieving information from respondents. In some instances, group discussion sessions were followed to gather useful information, particularly, on the socio-economic variables of the marketers and general marketing expenses and receipts.

Data Analysis

Descriptive statistics were used to achieve the aspect of socio-economic characteristics of the respondents, constraints to honeybee products marketing and the marketing channels. The aspect of profitability of the marketing of the beehive crops was realised using the Marketing Efficiency tool. Olukosi and Ogunbile (2005) captured it as:

$$ME = \frac{VO}{VI}$$

Where:

ME = Marketing Efficiency
VO = Value of Marketing Output
VI = Value of Marketing Input

Results and Discussion

Socio-Economic Characteristics of the Honeybee Products Marketers (HPM) in the Study Area

The role of socio-economic variables in significantly influencing both production and marketing of agricultural crops has been widely reported in the literature. For instance, while enhancing these variables, noted Jalal-ud-din (2011) and Ugwuja *et al.* (2011), could improve the small-scale farmers' adoption of new agricultural technologies in Pakistan and Nigeria, respectively, which in the end increase output, Higuchi *et al.* (2012), Pal *et al.* (2013), Ismaiel *et al.* (2014) and Adewuyi and Adekunle (2015) all reiterated how improvement of the socio-economic characteristics of marketers could boost marketing of agricultural produce. These studies were independently conducted in Peru, Jharkhand, Saudi Arabia and Nigeria, respectively.

Taking into cognisance of the above, some selected socio-economic characters of the HPM were reported. These include age, gender, marital status, experience and level of education. Others are family size, occupation and sources of credit. These variables are reflected in tables 1-3.

The result in table 1 shows that a larger proportion (41.43%) of the HPM were within the age range of 30-39 years, and this was closely followed by HPM within the age range of 40-49 years with a proportion of 32.86%. While the HPM between 20 and 29 years accounted for 11.43%, a total of 8.57% fell within the age range of 50-59 years. Only 5.71% was accounted for by HPM within 60 years and above.

The above findings implied that while the aged were found in the business, a larger chunk of the respondents were youths within their active age and in the range of 20 to 49 years, cumulatively recording 85.72%. This result agrees with Ajayi *et al.* (2006) whose survey on fish marketing in Lokoja and Kotorikarfi Local Government Areas (LGAs) in Kogi State, Nigeria, revealed that majority of the fish and orange sellers were youth, and associated the huge participation to the propensity of being more dynamic and willingness of taking risk with the hope of improving their income and living standard.

Table 1 also indicates results on gender and marital status of the HPM. Ninety percent of the respondents were males, with only 10.00% as females. Similarly, majority (78.57%) of the HPM was married and just a minor (21.43%) segment of them remained single. The large number of males as participants could be linked to the fact that this gender attends more to domestic economic responsibilities than females. Saminu (2009) also reported similar finding in a study conducted on marketing of honey in Mubi-North LGA of Adamawa State, Nigeria.

Table 1: Distribution of the HPM Based on Age, Gender and Marital Status in the Study Area.

Item	Frequency	Percentage (%)
Age range (years)		
20 – 29	16	11.43
30 – 39	58	41.43
40 – 49	46	32.86
50 – 59	12	8.57
60 and above	08	5.71
Total	140	100.00
Gender		
Male	126	90.00
Female	14	10.00
Total	140	100.00
Marital status		
Married	110	78.57
Single	30	21.43
Total	140	100.00

Source: Field Survey (2012).

Findings on experience in marketing, level of education and family size of the HPM are shown in table 2. A larger chunk (48.57%) of the marketers had experience between 6 and 10 years in the sales of honey products in the area. While about 20.00% had been selling beehive crops for 11-15 years, 14.29% for 1-5 years, a total of 10.00% accounted for those respondents that were involved in sales of honey products for 21 years and above. What this result entails is that majority ((85.57%) of the HPM have had experiences from 6 years upward, and could be said to be in the business for reasonable duration. Similarly, information on the respondents' level of education is shown in table 2. From the latter, it could be seen that majority (68.57%) of the HPM have had western education ranging from primary school to tertiary education, indicating their level of enlightenment, whereas about 31.43% were classified as illiterates. These two variables were expressed by Ajayi *et al.* (2006) as the most important factors (intelligence and education) in marketing, coupled with adequate information.

Table 2: Distribution of the Respondents According to Marketing Experience, Level of Education and Family in the Area.

Item	Frequency	Percentage (%)
Years of Experience		
1- 5	20	14.29
6- 10	16	48.57
11- 15	28	20.00
16- 20	10	7.14
21 and above	14	10.00
Total	140	100.00
Level of Education		
Illiterates	44	31.43
Primary school	52	37.14
Secondary school	40	28.57
Tertiary education	04	2.86
Total	140	100.00
Family Size		
1- 5	58	41.43
6- 10	70	50.00
11- 15	06	4.28
16- 20	02	1.43
21 and above	04	2.86
Total	140	100.00

Source: Field Survey (2012).

The result in table 2 shows that most (50.00%) of the HPM have had family size of 6-10, followed by 1-5 members of family with a proportion of 41.43%. Those with family size of 11-15, 16-20, and 20 and above were insignificant. The family size is considered very vital in farm families of developing economies, as they serve as helping hands in both agricultural production and marketing of agricultural produce.

In order to determine the major occupation and sources of fund of the HPM in the study area, the findings in table 3 were documented. It could be observed that 64.29% of the respondents were full-time honey marketers, followed by 21.43% who were into farming and honey marketing as secondary occupation. About 5.71% were into trading, other unidentified occupations accounted for 4.29%, and 2.86% were civil servants.

Table 3: Distribution of the HPM Based on Major Occupation and Sources of Funds in the Study Area.

Criterion	Frequency	Percentage (%)
Major Occupation		
Honey marketing	90	64.29
Farming	30	21.43
Petty trading	08	5.71
Civil service	04	2.86
Others	08	5.71
Total	140	100.00
Source of credit		
Personal savings	82	58.57
Friends	26	18.57
Inheritance	14	10.00
Co-operatives	12	8.57
Banks	06	4.29
Total	140	100.00

Source: Field Survey (2012).

The implication of the finding is that majority of the marketers (table 3) rely solely on marketing of honey products for sustaining their families. Also, 58.57% of the HPM sourced funds to start business from personal savings. While 18.57% borrowed from friends and 10.00% got their capital through inheritance, about 8.57% and 4.29% of the respondents raised funds from cooperative societies and banks, respectively. This implied that honey marketers from Ganye region had little access to loans from financial institutions. The finding is compatible with Saminu (2009) and Dakyong (2010) who independently reported poor access to loan from banks and government as one of the problems of agriculture activities in Adamawa and Kano States, respectively.

The marketing channels are shown in figure 1. It describes the marketing channels of honeybee products in the study area. In the figure 1, beehive products move from the producers to the wholesalers and from the wholesalers to the retailers and flows down to the final consumer. In another situation, a consumer buys his honey directly from the producer. In the study area, it was also discovered that retailers buy beehive crops directly from the producer.

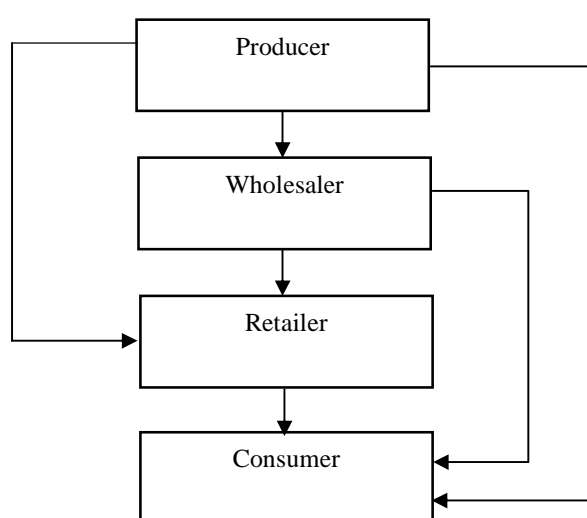


Figure 1: Marketing Channels of the Honeybee Products in the Study Area.
Source: Field Survey (2012).

Based on the participants in the market, the table 4 revealed that a larger proportion (40.00%) of the marketers were wholesalers, since they buy in bulk from the local producers and sale to middlemen, retailers and even consumers. This aligns with the opinion of Olukosi and Erhaboh (1999) that wholesalers perform the various marketing operations, and therefore, widely distributed in the market. Retailers accounted for 32.86% of the marketers who buy from the apiarists and numerous wholesalers. About 27.14% of the marketers were producers of the honey products.

Table 4: Distribution of the Respondents According to Participants in the Markets.

Participants	Frequency	Percentage (%)
Producers	38	27.14
Wholesalers	56	40.00
Retailers	46	32.86
Total	140	100.00

Source: Field Survey (2012).

The table 5 revealed that the marketing of beehive crops was efficient and profitable in the study area, with a Marketing Efficiency value of 1862.30%. Similar finding was earlier reported in the State by Ja'afar-Furo *et al.* (2006). However, the trading components show that honey accounted for the bulk (66.67%) of the gross receipts of the HPM, with beeswax recording 33.33%. Of the total marketing expenses, cost of transportation, purchase of Jerrycans as containers used in sales of honey and license or permit for sales of products showed significant proportions with 32.45%, 27.40% and 16.45%, respectively.

What the above results implied is that although marketing of honey products has been profitable in the area surveyed, the HPM still possessed inadequate knowledge of the extraction of the remaining of beehive crops or ignorant of the market values of products like probolis, bee venom and royal jelly which have both nutritional and therapeutic/industrial uses on the international scene.

Table 5: Marketing Efficiency of the Beehive Crops Sellers in the Study Area

Item	Average unit cost (₦)	Quantity	Total cost (₦)	Percentage of total
Gross Receipts (GR)				
Honey			13,582,600	66.67
Beeswax			6,791,000	33.33
Total GR (TGR)			20,373,600	100.00
Marketing Expenses				
Containers Used in Marketing				
20-litre jerrycan	250	1199	299,750	27.40
4-litre gallon	120	752	90,120	8.24
2-litre dish	350	140	49,000	4.48
1-litre bottle	20	1619	32,380	2.96
20-litre bucket	230	125	28,750	2.63
Cost of transportation			355,000	32.45
Tax			59,000	5.35
License/permit			180,000	16.45
Total Marketing Expenses (TME)			1,094,000	100.00
TGR				20,373,600
TME				1,094,000
ME				1862.30%

Source: Field Survey (2012).

In order to understand the predicaments of the HPM towards achieving the maximum in utilisation of resources, opinions of the respondents on the limitations were sought and are documented in table 6. The latter shows that a larger proportion (21.43%) indicated poor road linkage as the most worrisome constraint. This finding further ascertains the reason for transportation as second highest cost (32.35%) in the components of variable costs. Lack of government support (18.57%), lack of processing and packaging/insufficiency of capital (both 14.29% each) and

high cost of transportation (10.00%) are the next pressing problems of the HPM in descending order. Lack of market association (4.29%) and excessive price fluctuations (4.29%) were least in the opinion of the respondents. Going by the opinions of the HPM, it could be observed that with the numerous constraints experienced, honeybee products marketing is still profitable in the area surveyed.

Table 6: Distribution of Beehive Crops Marketers Based on Constraints Experienced in the Study Area.

Constraint	Frequency	Percentage
Poor Road Linkage	30	21.43
High Cost of Transportation	18	12.86
Insufficient Capital	20	14.29
Excessive Price Fluctuation	06	4.29
Lack of Market Association	06	4.29
Lack of Processing and Packaging	20	14.29
Adulteration	14	10.00
Lack of Government Support	26	18.57

Multiple responses were recorded

Source: Field survey (2012).

Conclusion and Policy Implication

Based on the findings of this survey, it's concluded that marketing of honeybee products is efficient and therefore, very profitable in the study area. The major constraints reported in the industry by the HPM, among others, include poor road linkage, lack of government support and lack of knowledge of processing and packaging among the marketers.

Authorities that intend to improve in the business should introduce intensive skills acquisition in improved methods of apiculture in the region, embark on development of infrastructure of which roads should be prominent, and provide soft loans to marketers to expand their trade. As a result of this development, the government could use the beehive crops marketing business as an avenue of improving the livelihoods of many people in the farming communities.

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