



RESEARCH PAPER

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Women participation in honey marketing: Evidence from Nigeria

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Abstract

The study examined women's participation in honey marketing. A multistage sampling procedure was used for the study. A structured questionnaire was used for data collection. The sample size was 60 women honey marketers. Descriptive statistics cost and return analysis and a regression model were used to analyze the data. The mean age of the honey marketers was 39 years old with the majority of them having tertiary education. The mean marketing experience was 6 years with a mean household size of 3 people. The majority (63.33%) of honey marketers did not belong to an association. A majority (61.67%) of marketers were married with a mean income of ₦18,800 per month. The major reasons for honey marketing were income generation, keeping yourself busy or engaged, assisting family welfare, and employment generation. The total revenue was ₦157,193.3k and the total cost was ₦79,082.17k. The gross margin was ₦78, 111.17k with a marketing efficiency of 93.91%. The factors that influenced women in honey marketing were quantity sold, selling price, transportation cost, market levy, and cost of loading and offloading. The major challenges militating against women honey marketers were a lack of financial resources, low patronage, transportation cost, poor road network, and price fluctuation. The predominant honey marketing channel was producers to wholesalers and retailers to consumers. The study concluded that honey marketing was a profitable enterprise in the study area. It was recommended that the government should provide credit facilities to traders in the area of study, so they could further improve their trade.

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Introduction

Honey can be described as a sticky, juicy, and sweet substance obtained from the social and colonial insect called Honey bees –*Apis mellifera* (Ojo *et al.*, 2017). Honey bees are a subset of bees that fall into the order Hymenoptera and sub-order *apocrita*. The science and practice of exploiting bees' products and services are known as Apiculture and have been in existence for thousands of years (Etxegarai-Legarreta and Sanchez-Famoso, 2022). Farmers have been harvesting honey from the wild nest for several years, and it was discovered that honey could be obtained more conveniently and easily if bees are encouraged to nest in hives.

This led to the origin of beekeeping and management in hives. It is widely practiced in Nigeria and other countries of the world as a result of the vast and magnificent importance of honey in the areas of food and medicine (Ojo *et al.*, 2017). Honey being a biological substance intended for food and pharmaceutical use, need considerable attention in quality and handling. The quality of honey produced is of more concern to consumers and producers to attain the right quality product. As reported by Oladeji and Awolala (2022), the relevance of honey to both the local, national, and global economies cannot be over-emphasized. According to him, honey bees contribute \$15bn to the value of US crops annually. The use of bees in biological (no- pesticide) control of agricultural pests is also an industry generating \$20m in the US per year. According to Agbugba and Sunday (2020), about \$200m worth of honey is produced in the US annually, while over \$30m is made by American beekeepers from renting out bees for crop pollination.

The market for honey beverages in the US is worth about \$195m per year, aside from the processing and packaging of honey-by products such as pollen, propolis, and royal jelly as food supplements, which generate more than \$1bn annually. Moreover, the beneficiaries of the bee wealth in the US are not limited to beekeepers put at about 212,000, and crop farmers –honeybee traders are also big beneficiaries in the industry. It can be used as a food supplement since it contains most of the nutrients needed for

body metabolism, thereby combating malnutrition. Honey contains a diversity of substances that are indispensable to all living things (Adeola *et al.*, 2011).

This claim has been confirmed by the fact that honey is used in the treatment of various ailments such as cough, constipation, diabetes, soreness, burns, indigestion, and arthritis, and is used as an elixir to relieve sore throat (Etxegarai-Legarreta and Sanchez-Famoso, 2022). The concept of using honey as medicine started at least six thousand years ago (Mukhopadhyay *et al.*, 2018).

Beekeeping is also a veritable means of creating jobs, particularly for the unemployed youth and poor rural population. According to Adeola *et al.* (2011), some industries, such as food, pharmaceutical, cosmetics, as well as brewery industries, depend on honey as part of their raw materials in the production of their commodities, for example, drugs, body creams, lip balm, confectionaries, etc. Honey is a sweetener in food, an alternative to sugar whose consumption can be detrimental to human health.

Furthermore, although honey marketing seems lucrative, there is a need to own the right amount of capital to get started, which may be beyond the reach of most women. Despite the high demand for honey in our society, the supply of honey and its products seem not enough to meet the demand in the market in the area of study. The inherent problems of honey marketing could be traced to poor transportation and logistics, inefficient processing of honey, and poor packaging, and handling.

Honey production and marketing is an aspect of agriculture that has been described by many as a profitable venture due to its many benefits and opportunities. It has the potential of creating sustainable employment, alleviates poverty, and improving the ecological condition of the environment where it is practiced. Despite all the benefits of bees to man coupled with the small take-off funds, bee farming, and marketing have not received the desired recognition by both government and the citizenry in Nigeria and Delta state in

particular. Most of the honey consumed in the Delta North agricultural zone is produced by honey hunters whose production is low both in quality and quantity, due mainly to poor skills in processing the products (Augustina, 2017). Furthermore, this makes sourcing honey difficult for traders. Despite its promise of being lucrative, honey is very good both as food and as medicine, a look at the market and honey traders reveals that the number of female honey traders is nowhere compared to the number of men involved in the trade. This begs the question, “why are women not involved in honey marketing as much as men in the research area”?

The majority of the beekeepers are men as well, therefore confirming the notion that beekeeping is a dangerous occupation –with only about 6% of the beekeepers being women (Pocol and Mcdonough, 2015). It makes one wonder if the perceived danger in beekeeping has an effect on the marketing of honey among women. So, it becomes important to know the level of participation of women in the marketing of honey, especially in the Delta North agricultural zone. Many researchers have studied honey marketing in Nigeria., Adeola *et al.* (2011) carried a study on honey marketing in Oyo State, Uduma and Udah, (2015) studied Bee Honey Marketing in Abia state, Babatunde *et al.* (2007) studied the Economics of Honey Production in Nigeria, Ojo, *et al.* (2017) studied analysis of honeybee production among women beekeepers in Kaduna state, Okonta (2013) studied honey production in Delta State using traditional hives. None of these studies considered the aspect of women in honey marketing. To the best of my knowledge, women's participation in honey marketing is lacking in Delta State. This is the gap this study tends to fill. This study examined women's participation in the marketing of honey and its profitability with a view to identify the challenges encountered in order to make the business sustainable.

Materials and methods

Study Area

The study was carried out in the Delta North agricultural zone of Delta State. The area lies approximately between Longitude 5°00 and 6°. 45'

East and Latitude 5°00 and 6°.30' North. Delta North is generally low-lying without remarkable hills. The region has a wide coastal belt inter-laced with rivulets and streams, which form part of the Niger Delta. Apart from the natural resources which Delta North is blessed with, the people of Delta North also engage in agriculture. In almost all the Local Government Areas, fresh fish, shrimp, and dried fish abound. Furthermore, there are various solid mineral deposits within the zone - industrial clay, silica, lignite, kaolin, tar sand, decorative rocks, limestone, etc. As an ethnically diverse zone in the state, the people who make up the groups, share ancestral and traditional administrative systems, which is evident in their dress, language, festivals, music, and folklore. They are hospitable, enlightened, and resourceful people.

Sampling Procedure

The population of the study comprised women involved in honey marketing. Delta North agricultural zone was purposively selected because there are some women involved in honey marketing. A multi-stage sampling procedure was used in selecting the respondents for the study. In the first stage, five local government areas were purposively selected from the zone, namely; Ika South, Ika North East, Ndokwa West, Oshimili South, and Oshimili North. In the second stage, three markets were randomly selected from the list of markets known for trading honey in each local government area. At the last stage, four female marketers were randomly selected from each of the fifteen chosen markets, making a total of 60 respondents.

Method of Data Collection

A well-structured questionnaire was used to collect the data that was used in this study. The questionnaire elicited information on age, marital status, level of education, and years of experience in the marketing of honey as well as profitability. Furthermore, information was also collected on cost and returns, factors affecting the level of profit, the problem encountered, and other relevant information.

Method of Data Analysis

The data were analyzed with the use of descriptive statistics such as frequency distribution and

percentages and inferential statistics such as gross margin analysis and regression. Gross margin analysis was used to estimate cost and returns and to determine the level of profitability of the operation of the marketers.

Objectives (i), (ii), (vi), and (vii) were achieved with descriptive statistics. Objective (iii) was achieved with cost and return analysis. Objective (iv) was achieved with a 4-point Likert-type scale, and objective (v) was achieved with regression analysis.

Model specification

Gross margin analysis was used to estimate cost and returns and to determine the level of profitability of the operation of women in honey marketing.

The gross margin can be represented thus:

$$GM = TR - TVC$$

Where

GM = Gross Margin

TR = Total Revenue

TVC = Total Variable Cost

Regression Analysis

The implicit function relating to the marketer's regression analysis can be expressed thus

$$Y = F(QS, SP, FS, EDUL, MEXP, PP, COT, ML, COL, COFL...e)$$

Y = Gross Margin (₦)

QS = quantity sold

SP = Selling price

FS = Family size

EDUL = Educational level

MEXP = Marketing experience

PP = purchasing price

COT = Cost of transportation

ML = Market levies

COL = Cost of loading

COFL = and offloading

ei = error term

Results

Socioeconomic characteristics of honey marketers

Age of respondents

Table 1 presents the distribution of respondents according to age. It was evident from the result that

the majority (50%) of the respondents were between 36-50 years old, while 8.33%, 26.67%, and 15.00% were between the ages of 25 and below, 26-35 and 51-60 years respectively. The mean age was 39 years. This indicated that most of the respondents in the study area were at their productive age.

The educational level of respondents

The survey results indicated that about 3.33% and 40.00% of the sample traders had primary and secondary school education, respectively, and 56.67% of the traders had tertiary education. It suggested that honey marketers had acquired one form of education or the other.

Experience level of respondents

Experience in honey marketing was taken to be the number of years that an individual had continuously engaged in honey marketing activities. The majority (58.34%) of the respondents had between 4-6 years of honey marketing experience while 38.33% of respondents had between 7-9 years of experience. Only 3.33% of traders had 1-3 years of experience. The average years of experience were 6 years.

Household size of respondents

The distribution of respondents according to family size is presented in Table 1. The result shows that 78.33% of the respondents had a household size of 1-3 persons, while 20% of respondents had 4-6 people and 1.67% of respondents had 7-9 in their household. The mean household size was 3 people.

Association of respondents

The finding indicates the involvement of respondents in the Association of honey marketers. 36.67% of respondents were members of various associations, while 63.33% were not members of any association.

Marital status of respondents

The outcome presented the marital status of honey marketers in the area. It showed that 35% of respondents were single, 61.67% were married and only 3.33% were widowed. It implied that the honey market was dominated by married individuals.

Income level of respondents

The result showed the distribution of the sampled traders by their average total income earned from the sale of honey. As shown in Table 1, the maximum proportion (53.33%) of sampled respondents earned an average income of between ₦15000 to ₦24999 from honey marketing and about 15% of sampled respondents earned between ₦25000 to ₦34999, and only a very few (1.67%) earned ₦45000 – ₦54999, and ₦55,000 – ₦64999 respectively. The mean income was ₦18800 per month. This showed that honey marketing was profitable.

Reasons for honey marketing

The reasons for honey marketing in the Delta North agricultural zone are shown in Table 2. The percentage of respondents who sold honey for income purposes was 25.94% while those who sold only to be engaged were 22.64%. About 17.92% of respondents confirmed that their main purpose of honey marketing was to assist the welfare of family members, 15.57% for employment purposes, 11.32% was to inherit their parents' business, 5.19% used it for poverty alleviation and only 1.42% did the business for foreign exchange.

Cost and return of honey marketing

The cost and return analysis of honey marketing for traders in the region is summarized in Table 3. Average costs and sales prices of retailers were undertaken in the operation. Table 3 shows the variable cost components which included the purchase price for honey (₦55883.33), communication cost (₦325.83), transportation cost (₦1427.50), and price per gallon (₦17891.67). Other costs captured include market levy (₦232.50), rent (₦1790.00), and feeding (₦260.83). The average cost and revenue were ₦79082.17 and ₦157193.3. This indicated that a retailer could obtain a profit of ₦78111.17 with a marketing efficiency of 93.91%.

Honey marketing on household welfare

The effect of honey marketing on household welfare in the Delta North agricultural zone is reported in Table 4. Regarding the effect on a household, 41.55% of respondents reportedly engaged in honey

marketing to help improve their household income, while 40.14% were engaged in it for health purposes. Only 18.31% were involved in this endeavor as full-time employment.

Determinants of honey marketing by respondents

The regression was done using the exponential model because it had the best fit. From the result of the exponential regression in Table 5, R² was 0.6299 implying that the explanatory variables contributed 63% to the dependent variable while the remaining 37% accounted for the variables not included in the model. The F-value of 10.85 was significant at a 1% level of probability. Seven independent variables (quantity sold, selling price, education, transportation cost, market levy, cost of loading and offloading) out of the nine were significantly different at the 5% level.

Constraints of honey marketing by Respondents

Honey marketers were confronted with several problems related to the trading of honey. Major problems in honey marketing arose from various factors that were somewhat beyond the control of the traders. Table 6 summarizes the major constraints identified and prioritized by the respondents. Lack of financial resources (13.02%), Low Patronage (12.24%), Transportation cost (12.24%), Poor road network (10.24%), Price fluctuation (9.64%), Storage problem (7.55%), Inadequate supply of honey (6.77%), Problem of theft (5.99%), Poor marketing techniques (5.73%), Market levy (4.43%), Inadequate manpower (4.43%), Lack of proper training (3.91%), and Poor beekeeping skills (3.65%). These challenges could affect the profit of honey marketers drastically.

Marketing Channel of Honey of Respondents

During the survey, the following honey marketing channels were identified; Channel I: Producer to wholesaler to retailer to consumer was 41.67%; Channel II: Producer to the consumer was 25.0% and Channel III: Producer to retailer to the consumer was 33.33% respectively. This showed that the majority of honey marketers utilized the marketing channel from producer to wholesaler to retailer to the final consumer.

Discussion

The mean age showed that the honey marketers were still young. Age is a vital component of business success. This, of course, suggest that the age of agribusiness trader affects his/her ability to adopt innovations and production techniques in agriculture as well as his working capacity. This result was supported by the findings of Onyekuru *et al.* (2010) that honey marketers who were still young and energetic participated fully in honey marketing. This also agreed with Kassa (2017) in his findings that active honey marketers were aged between 31-40 years. Gbigbi (2018) also had a similar mean age of 38 years for marketers in Delta State. The outcome revealed that a high proportion of the honey marketers were literate, implying that education is very important among the farmers; because it enables them to adopt improved honey marketing practices and innovation for improved productivity. This result contradicted Agbugba and Thompson, (2015) that found that the majority of honey marketers did not have the resources to acquire tertiary education. The 6 years of marketing experience showed that the marketers are relatively young. This implies that with this experience marketers can obtain a better return. This result is in agreement with Gbigbi and Chuks-Okonta (2020) in their study on feed marketing in Delta State. The household size of honey marketers was relatively small. The implication is that smaller family sizes could increase the profitability of marketers because they had fewer mouths to feed. The majority of honey marketers did not belong to an association. This result implied that the expansion and growth of honey marketing were negatively affected because marketers relied strictly on funds from personal sources. The dominant nature of the married individual in the marketing of honey is a pointer to the profitability of the business for poverty reduction. Hence married people were involved in honey marketing as a means of livelihood upon which households could be adequately supported. There were quite several reasons why respondents reportedly got involved in honey marketing and it was no surprise that income was the biggest reason why respondents were involved in the trade in order to improve the standard of living of the marketers.

Mwakatobe *et al.* (2021) reported that income was the main reason for practising beekeeping in Tanzanian.

The result showed that honey marketing was profitable. The profit level was plausible hence honey marketing could be used as a poverty alleviation measure, especially for unemployed women. This agreed with Babatunde *et al.* (2007) study carried out in Oyo State in Southwest Nigeria that honey marketing was very profitable. The effect of honey marketing on household welfare was confirmed by Animene, (2007) and Kassa *et al.* (2017) that honey was used in the treatment of various ailments such as cough, constipation, diabetes, sore, burns, indigestion, arthritis, to mention a few are used as an elixir to relieve sore throat. Results indicated that quantity of honey sold has a positive and significant influence on honey profitability. A unit increase in quantity of honey sold by a marketer, would result to a corresponding increase in the profitability of marketers and hence, the bigger the quantity of honey sold, the higher the returns to the marketer as rewards. This is in agreement with Okonta *et al.* (2021) who argued that larger quantities of honey sold in the market will yield higher profits to the marketers. The coefficient of selling price was positive and significant at a 5% level of probability with profit. This implied that a unit increase in selling price would result in a corresponding increase in profit. Findings showed that price of honey produced have a highly positive and significant influence on honey profitability. This means that as the price of honey increase, the farmers are willing and able to offer their honey for sales at large quantity and thus, negotiating more incomes for the farmers and price is a sensitive determinant of profitability. This is in agreement with Oola, (2022) who revealed that honey prices jumped by more than 50 percent in the past years thus, leaving honey producers with huge profits. Education has a positive and significant effect on honey profitability. Apparently honey farmers with higher education have knowledge, skills and acquired management practices as well as marketing knowledge than those with lower education. Therefore, education is positively reactive to honey profit obtained by the farmers. The coefficient of

transportation cost had an inverse relationship with profit at a 5% level of probability. This implied that a 1% increase in transportation costs will reduce the profit of the marketers by the same percentage (Achoja and Gbigbi, 2019). The coefficient of the market levy was negatively significant with profit at a 5% level of probability. This implied that a 1% increase in market levy will lead to a corresponding decrease in the profit of honey marketers. The coefficient of cost of loading and offloading was negative and significant at a 5% level of probability with profit. This suggested that any increase in the cost of loading and offloading will affect the profit of honey marketers and this equally has the tendency to reduce the profit of honey marketers. The resultant effect of the challenges in the marketing of honey could be quitting by marketers. This action could undermine the benefits derived from honey. This is consistent with the findings of Reddy *et al.* (2009) who opined that one of the pressing problems of honey marketing was the lack of adequate transport services which was mainly caused by poor access roads. The major marketing channel of honey adopted in the area was from producer to wholesaler to retailer to the final consumer due to easy way of making profit. The marketing channel of honey is the sequence through which the whole process of honey marketing passes from honey farmers to consumers. The analysis of the marketing channel is intended to provide systematic knowledge of the flow of goods and services from their origin (producer) to the final destination (consumer). The result is consistent with the findings of Melaku (2021) that the most commonly used marketing channel of honey marketing in Gimbo woreda was Producer – Retailer – Wholesaler – consumers.

Conclusion

The results showed that the participation of women in honey marketing was profitable. However, the honey marketers encountered some challenges such as a lack of financial resources, low patronage, high transportation cost, poor road network, price fluctuation, storage problems, inadequate supply of honey, problems of theft, poor marketing techniques, market levy, inadequate manpower, lack of proper

training, and poor beekeeping skills. The results highlighted that honey marketing was influenced by selling price, transportation cost, market levy, and cost of loading and offloading. It is recommended and suggested that;

- i. The government should provide credit facilities to traders in the area of study, so they could further improve their trade.
- ii. Honey marketers should be trained in the modern technologies of honey marketing.
- iii. Honey marketers should be encouraged to join honey marketing Associations for enhanced profitability.
- iv. Government should provide good road networks to help reduce transport costs.
- v. Government should stabilize the price fluctuation in honey marketing to enable new entrants into the business.
- vi. Government should intervene in the area of storage facilities to enable honey marketers to store their honey and so maximize profit.
- vii. Government should encourage honey marketers by all means for the effective functioning of the honey marketing chain.

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