
Factors Influencing the Price of Honey; A Case of Mvomero District

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Abstract

Tanzania is Africa's second largest honey producer, trailing only Ethiopia. It helps to increase both foreign earnings and employment in the country. Despite the positive effects of honey on society, there is still a lack of focus on the factors influencing the market price of honey. The current study intends to look into related factors affecting the price determination of honey in Mvomero district. Specifically, the study aims to assess how the cost, quality and demand of honey affect the market price of honey. The study adopted a cross sectional research design whereby data were collected once from 100 respondents who are honey value chain actors (harvesters, traders and processors) in Mvomero district. Quantitative data retrieved from the questionnaires were analyzed by using SPSS version 20 in which descriptive and binary logistic regression were determined. Results showed that factors such as cost and demand were statistically significant associated with market price of honey in the study area. Furthermore, the quality positively influenced the honey price but not statistically significant in the study area. The study concluded that some explanatory variables include; demand and cost of honey significantly influence the market price of honey along the value chain ($p < 0.05$). But the quality of honey was not statistically different ($p > 0.05$). The study recommends that majority of beekeepers are capable, but due to a lack of funding and equipment, they are forced to use outdated technology for producing, harvesting, and marketing their products. It is important to encourage both governmental and non-governmental institutions to support the actors.

Keywords: Honey Price, Cost, Quality, Demand, Binary Logistic regression

2.1 Introduction

African agriculture holds a lot of potential (Banjo *et al.*, 2012). Tanzania's agricultural sector plays a significant role in rural development and poverty reduction (URT, 2012). It is the primary source of income in rural areas, making up roughly 28% of GDP and 24% of total export value (Sikwese *et al.*, 2022). There, nearly 95% of the country's food needs are satisfied, along with about 75% of the employment opportunities (URT, 2017).

Globally, honey demand is beyond the supply and is becoming more valuable. This is due to the increasing awareness level and health consciousness among consumers (Nega and Eshete, 2018). The majority of the dealer's welfare/income along the honey value chain has been seen to increase in Tanzania as a result of honey marketing (Kuboja and Jackson, 2015). Since honey from bees has antibacterial, antifungal, and antiviral properties, it has gained more recognition as

a potent treatment for acute cough and throat infections (Mbeiyerewa, 2014). According to economic theory, consumer decision-making is significantly influenced by consumer income and honey price (Davis, 1982). Despite these opportunities, honey marketers and dealers along the value chains still encounter many difficulties in the market, which is also influenced by their limited access to the market and the cost of the produced honey (Nyatsande *et al.*, 2014). Most actors in the honey value chain have not given the pricing of honey products the proper attention (Ichkeria. 2019).

Similar studies on the variables influencing honey consumption patterns and market demands have been done in this field. According to Ismaiel *et al.* (2017), the main variables that affect the quality of honey are the source, brand name, and consumer trust in the producers. According to Abebe (2009), the main participants in the honey value chain are beekeepers, retailers, and processors. These studies did not, however, establish how much the cost, quality, supply, and demand of honey affect the price of honey. The current study aimed to evaluate the elements influencing honey price along the honey value chain.

The findings of this study should aid in understanding how honey stakeholders will determine appropriate pricing strategies that will improve the well-being of the honey actor. Additionally, because the results of this study are in line with the Millennium Development Goals, which include the first goal of ending extreme poverty and hunger, they are significant for the development of the agriculture sector in Tanzania. More than two billion people worldwide, including the poorest, depend on agriculture, so agricultural development is essential to achieving this goal (UN, 2015).

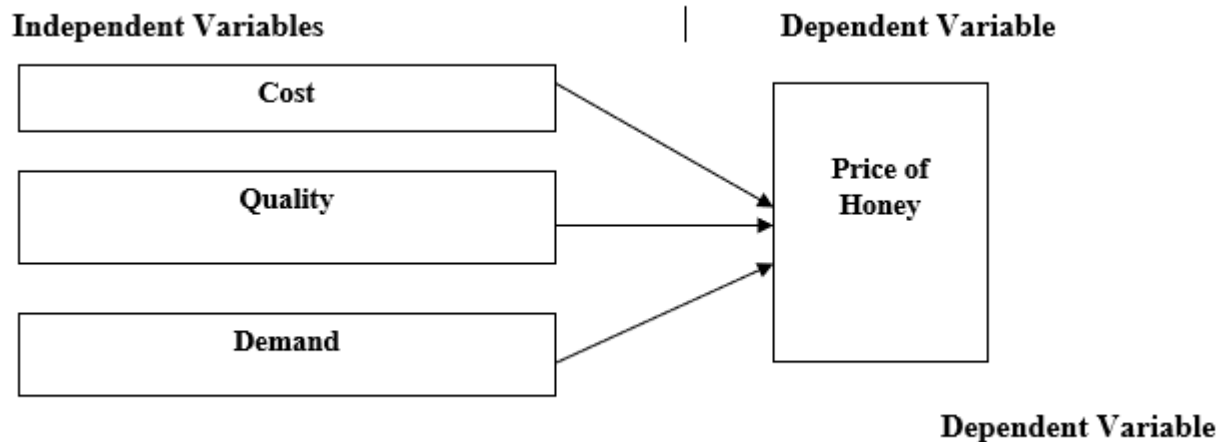
2.2 Theoretical Framework

2.2.1 Agriculture Development

The current study was guided by the theory of agriculture development, which is mainly focused on the improvement of substantial and social well-being of the people. Consequently, it is frequently viewed as an integrated strategy for enhancing the environment and the general welfare of society (Nwachukwu, 2008). An investment created to make contemporary, highly profitable inputs accessible to farmers in developing nations is the key to changing a traditional agricultural industry into a lucrative source of economic growth. In old agricultural systems, peasants were thought of as being logical, effective resource allocators (Udemezue and Osegbue, 2018). The value chain actors with the mandate to determine the price of honey are likely to change from low status to high income status and are more likely to develop and increase their farm output through the financial boost obtained.

2.3 Conceptual Framework

The conceptual framework shown in Figure 2.1 is based on various empirical literature reviews undertaken on examples involving factors influencing the price of honey along the honey value chain, its causes, and variations. It illustrates that when the value chain actors have the mandate to determine the price of honey some factors need to be considered before pricing the honey. The value chain actor who do not have the authority to determine the price is characterized by poor well-being.



Source; Researcher, 2022.

2.4 Research Methodology

2.4.1 Study Area

The present study took place in the Mvomero district of the Morogoro Region, which is located in the Eastern zone, which extends between latitudes 8° and 10° South of the equator and between longitudes 37° and 28° East of Greenwich Meridian (URT, 2017b). The altitude of the districts is between 380 and 1 520 meters above the sea level thus providing a suitable climate for tropical and subtropical varieties of agricultural practices (URT, 2017b). Economic activities include; livestock keeping, beekeeping, forestry and tourism (URT, 2017b). The main reason for choosing it is due to the fact that Morogoro is a thriving agricultural town where beekeeping activities are conducted and are on the rise. The selected district has an ecological potential which supports beekeeping practices (Tutubaet *al.*, 2019).

2.4.2 Research Design

The present study used a cross-sectional design; data were collected once at a time in the field.

2.4.3 Sampling Techniques and Sample Size

A total of 100 honey actors were selected to participate in the study. A stratified sampling design was used to group the actors according to their nodes. Using basic random sampling, a complete sample was obtained from each stratum in Mvomero district. The sample size was 100 respondents.

2.4.4 Data Collection

Interviews were conducted using a questionnaire to collect information on the socio-economic characteristics and the determinants of honey price.

2.4 Data Analysis

Data on factors influencing honey price determination was analyzed by Binary Logistic Regression where cost, quality, and demand were used as predictors. The Binary Logistic Regression equation is as follows:

$$\ln(P/1-P) = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + E.$$

Where,

P= Probability of honey price raising,

(1-P) represents the probability of honey price decreasing,

β_0 = Constant,

β_1 - β_4 = Parameter estimates, and

X_1 =Quality, X_2 = Demand, X_3 = Cost and E =Error term.

2.6 Findings and Discussions

2.6.1 Demographic Characteristics

Different characteristics of respondents were used in this study. The respondent characteristics included gender, age, marital status, and education level.

As summarized in Table 2.1, the respondent aged between 20-30 was 8%, 46% of the respondents were aged 31-45, 38% of the respondents were aged between 45-60 years, and 8% of the respondents were aged 60 years and above. The results suggest that most reproductive age involved in beekeeping activities is 31-45 years old. This is almost similar to a study done by Asmara, (2016) who reported that middle age is the one involved in many agricultural production activities.

The results in Table 2.1 also show that 15% of the respondent were single, 83% of the respondent were married, and 2% of the respondents were divorced or separated. This implies that most of the beekeeping farming activities are done by people who are married because they are engaged in various social and economic commitments. Such commitments include ensuring food availability for family members, better housing, education for children, and clothing, and the acquisition of better health services. This is almost similar to a study by Sanga and Elia (2020) who reported that married people are more likely to be involved in different agricultural productions than those who are not.

Further, the results in Table 2.1 show that 81% of the respondents had primary education, 6% of the respondents had secondary education, and 12% of respondents had college educational level. This shows that majority of the respondents had primary education. This implies that most of the honey actors have low educational level and this might have a big impact in the determination of honey price. The results are in line with the study by Venance *et al.* (2016) who reported that literate farmers are more aware of the different administration activities compared to illiterate farmers.

According to Table 2.1's findings, there were 78 male respondents, or 78% of the total, and 22 female respondents, or almost 22%. This suggests that there were more male actors in the honey value chain than female actors. This is because of the nature of the work itself; for example, harvesting activities are done at night because protective gear is not available. This finding is consistent with a study by Kuboja *et al.* (2017) on the honey value chain in the Bukombe district, which found that few women engaged in beekeeping activities due to the hazardous nature of the work, which involved climbing trees to hang beehives and harvest honey.

Table 2.1: Socio-Demographic Characteristics

Variable	Category	Frequency	Percentage
Age	20-30	8	8
	31-45	46	46
	46-60	38	38
	60+	8	8
Marital status	Married	83	83
	Single	15	15
	Divorced	2	2
Education level	Primary	81	81
	Secondary	6	6
	College	13	13
Gender	Male	78	78
	Female	22	22

2.6.2 Factor Associated with Determination of Honey Price

A binary logistic regression model was used to define the factors that influence price of honey along the value chain in Mvomero district. Quality (High, Low), Demand (Large, Small), and Cost (Tshs) were the variables included in the model. The model summary shows that the independent variables fit well in the regression model ($R^2= 0.929$). The Cox & Snell R Square and Nagelkerke R Square of 0.792 and 0.929 respectively reveal the correlation between price of honey and explanatory variables.

The results (Table 2.2) show that some explanatory variables such as demand and cost of honey significantly influence price of honey along the value chain in Mvomero district while quality did not have a significant influence at 5% significant level (α).

Quality of honey has been seen not to affect positively the price of honey as it was not significant difference ($P>0.05$) hence, no influence on price of honey. The findings are similar to the study by Ballco *et al.* (2022) who reported that the quality of honey from non-EU countries have no any significance in determining the market price of honey in Spain. This shows that most of the honey which comes from developing countries has not yet reached the quality in some of the developed countries. However, it had a positive exponential beta coefficient of 6.656 meaning it has a positive influence on price of honey in other countries. Similarly, the findings by Bissinger and Herrmann (2021) reported that quality influences the price of honey as it is the factor that affects the preference of local honey.

Results in Table 2.2 further shows that cost of production of honey was statistically significant, that is to say, that cost of production do influence the alteration of honey price by the actors along the value chain of honey. This result is similar to the result by Breeze *et al.* (2021) who reported that in determining the market price of honey, one should consider the cost of

production. The cost of production includes such as labour charges, buildings used for apiary, equipments and supplies, and management charges.

Lastly, the demand of honey, from the binary logistic regression results (Table 2.2) was statistically significant which implies that the greater the demand of honey the greater the increase of honey price. This result is similar to the findings by Alnafissa and Alderiny (2020) who reported that demand have high influence in the determination of honey price along the value chain. According to these results, it is crucial to promote domestic honey production.

2.2 Binary Logistic Regression Model Results of Factors Associated with Honey Price Determination

Variables	B	S.E.	Wald	df	Sig.	Exp(B)
Quality	181.89 6	.783	5.865	1	.469	6.656
Cost	1286.6 7	.050	5.012	1	.000	5.156
Demand	-25.729	23251.39 7	.000	1	.000	.000
Constant	3.592	2.722	1.742	1	.187	36.292

2.7 Conclusions and Recommendation

2.7.1 Conclusions

Referring to the results above, factors influencing price of honey among the value chain actors. The findings concluded that some explanatory variables include; demand and cost of honey significantly influence the market price of honey along the value chain ($p < 0.05$). But the quality of honey was not statistically different ($p > 0.05$).

From the findings the study recommends that;

- i. Actors should receive adequate production, upkeep, and marketing training and coaching. Information on the beekeeping calendar, for example, is crucial because some beekeepers harvest honey at the wrong time, as the result the low quality of honey.
- ii. The majority of beekeepers are capable, but due to a lack of funding and equipment, they are forced to use outdated technology for producing, harvesting, and marketing their products. Their output has decreased as a result of this. It is important to encourage both governmental and non-governmental institutions to support the actors.

2.8 References

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