NIGERIAN AGRICULTURAL JOURNAL
ISSN: 0300-368X
Volume 51 Number 2, August 2020 Pg. 445-452
Available online at: http://www.ajol.info/index.php/naj

DETERMINANTS OF MARKETING EFFICIENCY AMONG BEE HONEY ENTREPRENEURS IN UMUAHIA AGRICULTURAL ZONE, ABIA STATE, NIGERIA

Uchechukwu, N.U., Anyaegbunam, H.N. and Mgbeahuru, C.C.

National Root Crops Research Institute, Umudike, PMB 7006, Umuahia
Corresponding Authors' email: uchechukwuuzoma9@gmail.com

Abstract
This study was conducted in Abia State in 2019. It was undertaken to investigate the determinants of marketing efficiency of bee honey enterprise. A purposive sampling technique was used to select 120 bee honey farmers/ marketers from two Local Government Areas; Umuahia- North and South in Umuahia Agricultural Zone of Abia State. Data were collected from primary and secondary sources. The primary data were collected using a structured questionnaire administered to the respondents, and were analyzed using descriptive and inferential statistics. The results indicate that majority (60%) of the respondents was males, many (41.77%) were middle aged and 46.67% attained tertiary education. Results also show that many of the respondents (50%) used personal savings as source capital and honey for medicinal use each, 66.67% revealed that they do not belong to any farmers' association. The findings from the study also showed that some of the factors that affect honey consumption were color (25%), taste (45%) and low quality of honey (45.83%). Furthermore, the study showed that many of the respondents (37.5%) sold honey to retail shops. The result of the regression analysis showed that coefficients of household size, Marketing Experience, Depreciation value, Transportation, Education, Purchase price, Interest rate and labor costs were all significant at varied levels and magnitudes. Decrease in output, increase in cost of production, seasonality of honey were major constraints identified. It is advocated that there should be a collective action among beekeepers/marketers to enhance honey marketing competitiveness, development of a honey market information system that provides up to date information to both beekeepers and honey traders. Bee honey Keepers and marketers should also avail themselves of opportunities of trainings to keep abreast of technologies and strategies of modern beekeeping enterprise. There is also need for rehabilitation of rural road networks to reduce the transactions cost of transportation, as well as provision of soft loans to honey farmers at little or no interest rates for enhanced marketing efficiency.

Keywords: Marketing experience, transportation cost, education, efficiency and bee honey

Introduction
The marketing of honey involves exchange points, and the number of exchange point depends on the distance between area of honey production and that of consumption. A well develop marketing system compliments farm production effort and helps it to realize its desired goal through the provision of time, place and form. Olukosi *et al.* (2005) reported that a well-developed marketing system enhances the pace of economic development by encouraging specialization, generation of foreign exchange, development of exchange economy, and provision of income and employment opportunities for marketing agents. In order to successfully market honey and other honey product, producers, processors and other entrepreneurs in honey industry in the country must have knowledge on state of consumption and the behavior of the consumers. Moreover, designing appropriate production and marketing polices in beekeeping sector requires an understanding of the major factors that influences the consumption of bee products at large. The need to tackle unemployment and improve the standard of living by increasing the income of the populace has led to the promotion of various types of small-scale income generating activities, one of which is beekeeping. Modern bee honey production, commonly and scientifically known as Beekeeping and Apiculture respectively can be defined as the practice and management of bees in a Hive in such a way that it can be observed at its developmental stages and manipulation (Ojeleye, 2003). In order to promote diversification in agriculture and reduce poverty, beekeeping is one of the major agricultural activities being upheld by the government programmers' of poverty Alleviation (MAAIF, 2000). It offers a great potential for income generation, poverty alleviation, sustainable use of forest

resources and diversifying the export base. Beekeeping is a non-polluting agricultural activity which does not occupy cultivated land (Conarad, 2007). There is availability of market for bee products both locally and internationally, and it is important to note that pharmaceutical and cosmetic industries utilize bee products such as honey, royal jelly, beeswax and propolis (UEPB 2005). In Uganda, honey, beeswax, propolis, royal jelly and bee venom are the major financial products (Kamatara, 2006), with pollination as the major biodiversity benefit (Delaplane, 2008). Beekeeping is emerging as a very successful agricultural practice for rural area based people in less developed countries mainly due to its economic benefits from the products of this practice (Kugonza, 2009).

The most important service the honeybees render to mankind is pollination of agricultural and forestry crops (FAO, 1990; Common Wealth, 2002). In contrast with other agricultural projects such as livestock, poultry and fish farming, beekeeping is a relatively low investment venture that can be undertaken by most people (women, youths, elderly and the disabled). With beekeeping, there is no competition for resources used by other forms of agriculture. Additionally, it is environmentally friendly and can be productive even in semi-arid areas that are unsuitable for other agricultural use (FAO 1990). The consumption of honey worldwide has increased tremendously due to consumers' awareness of its nutritious values in maintaining good health and in treatment of various diseases (Ismaiel *et al*., 2014; Cosmina *et al.,* 2016). As food, honey is a natural source of energy with the following major nutritional components; fructose and glucose (80–85%), proteins and amino acids(0.1–0.4%), and trace amounts of enzymes, vitamins, minerals and about 200 other substances, such as phenolic compounds (James et al., 2009; White and Doner, 1980; Jeffrey and Echazarreta 1996; Gheldof and Engeseth, 200). Fructose, glucose and dextrose are directly absorbed into the blood and provide energy to the body. Honey also contain tiny amount of several compounds which act as antioxidant such as: crysin, pinobanksin, vitamin-c, catalase and pinocembrin. It is used as ingredients in various food preparations, in both alcoholic and non-alcoholic beverages as sweeteners and in confectionaries as flavoring agents (Durrani *et al.,* 2011; Eleazu *et al.,* 2013).Among bee products, honey represents the most important in terms of quantity, consumption and profitability in the beekeeping sector.

Since food security cannot be achieved without income security, beekeeping could be a useful tool for improving rural economy; however, people are reluctant in taking up this enterprise. Adopting improved technologies and improved management practices would greatly improve the yields and quality of honey (Mujuni *et al*., 2012). Even though considerable attention is given in reports and documents to the significance of beekeeping, little research and development in beekeeping has been conducted. Efforts to increase production would require proper assessment of marketing efficiency. The study was therefore designed to identify the determinants of marketing efficiency of bee honey enterprise in the study area.

Methodology

The study was conducted in Abia State in 2019. Abia State is located in South-East geographical zone of Nigeria, with seventeen Local Government Areas (LGAs), and great potential for Bee farming. The study adopted a field survey method. Purposive sampling method was used in the selection of respondents to ensure that actual bee honey farmers/marketers were captured for the study. A total of 120 honey farmers were purposively selected from Umuahia North and South LGAs because of intensity of natural resources in the area (60 respondents were selected from each LGA). Information from the respondents was collected using structured questionnaire. Data were analyzed by the use of inferential and descriptive statistics such as frequency distribution, mean, percentages and ranking (in descending order) and ordinary least square regression procedure.

The function is implicitly expressed thus:

$$Y = F(X_1, X, X_3 \ldots\ldots\ldots X_{10}) + e$$

Where,

Y = Marketing efficiency (ME=value added by marketing activities x100)

X_1 = Gender (male =1, female=0)

X_2 = Household size (number of persons living in the same house)

X_3 = Experience (years)

X_4 = Depreciation in marketing tools (N)

X_5 = Transportation cost (N)

X_6 = Educational level (years)

X_7 = Age (years)

X_8 = Purchase price (N)

X_9 = Interest rate (%)

X_{10} = Labor cost (N)

e = Error term

The explanatory variables X_1-X_{10} chosen were important variables expected to have direct or indirect relationship with the dependent variable and also in conformity with *a priori* expectation.

Results and Discussion

Table 1 shows the distribution of the respondents according to socioeconomic characteristics. Many (41.67%) of the respondents in the study area are middle aged; this indicates that people in their productive years are actively engaged in beekeeping activities in the study area. This finding conforms with that of Mbah (2012) who found out that many beekeepers in Nigeria were within the productive age ranging from 20 to 50 years. Similar findings were also reported by Abdullahi *et al.* (2014), and Onwumere *et al.* (2012) who also found a large proportion of beekeepers in Nigeria within the productive working age category. Majority (60%) of the respondents was male, while (40%) were female; this implies that men are more involved in the bee keeping activities than their female counterparts. About 46.67% acquired tertiary level of education. Education

creates a favorable mental attitude for the acceptance of new ideas and practices. It enables a farmer to seek for useful information and utilize full information from both print and electronic media, thereby accelerating the rate of adoption of technologies (Ozor and Madukwe, 2005; Agbamu, 2006). Results also show that only 10% of the beekeeper had one to five years experience in beekeeping. This implies that modern beekeeping is not at its infant stage in the study area with very small farmers having little experience. This could mean that the farmers have the relevant skill in management of bee farms. Majority (66.67%) of the respondents do not belong to farmers association. This implies that bee farmers in the area have not organized themselves into any association. Fifty percent of the respondents used personal savings as capital for bee farming, implying that most of the respondents did not have access to credit facilities for the enterprise. This finding agrees with that of (Adebiyi, 2008), who observed that the cocoa farmers in Oyo State sourced their capital from personal savings.

Table 1: Distribution of respondents according to Socioeconomic characteristics of the respondent

Variable	Frequency	Percentage
Age		
21-30	50	41.67
31-40	25	20.83
41-50	22	18.3
51-60	15	12.5
Above 60	8	6.7
Gender		
Male	72	60
Female	48	40
Educational level		
No formal education	15	12.5
Primary	17	14.17
Post primary	32	26.66
Tertiary	56	46.67
Years of experience in honey marketing		
1-5	12	10.00
6-10	15	12.50
11-15	16	13.33
16-20	21	17.50
Above 20	56	46.70
Household size		
1-5	17	14.17
6-10	15	12.5
11-15	47	39.17
16-20	41	34.17
Membership of association		
None	80	66.67
Yes	40	33.33
Source of Capital		
Bank loan	12	10
Corporative loan	15	12.5
Personal savings	60	50
Gratuity/pension benefit	10	8.33
Government grant	23	19.17
Membership of association		
Yes	40	33.33
No	80	66.67
Total	**120**	**100**

Source: Field survey data, 2019

Table 2 shows that many of the farmers (25%) sourced information on honey production and marketing mainly from fellow farmers, probably because of the trust they have in each other. This finding agrees with Adereti *et al.* (2006), who indicated that majority of the farmer rely on group discussions/meetings with fellow farmers as their major source of technical information. About 19.17% of the respondents obtained information from personal observation. The result also shows that 13.33% of the honey farmers sourced information from extension agents. The result indicates that most of the farmers use conventional source of information, other than the electronic, such as: radio, internet and television. The very low level of patronage of the electronic media as a source of beekeeping information might be due to low exposure in computer literacy among the bee farmers. This result conformed to the findings of Agbamu (2006) who reported that the source of information mostly used by farmers in developing country is mostly influenced by the farmer's available source of innovation and the extent of modernization in the locality.

Table 2: Sources of information on Honey production and Marketing

Source of Information	Frequency	Percentage
Fellow farmers	30	25
Personal observation	23	19.17
Extension agents	16	13.33
Seminar/workshop	15	12.5
Radio	12	10
Television	18	15
Internet	6	5
Total	120	100

Source: Field survey Data, 2019

The result in Table 3 shows that many (50%) of the respondents used honey for medicinal purposes, this agrees with the findings of Anineme (2007), who reported that honey is so much in use and consequently in demand that it can be termed a money spinner. Also Meda *et al.* (2004) reported that honey is becoming acceptable as a reputable and effective therapeutic agent. The findings further revealed that 33.33% of the respondents use honey as an additive in food processing. This could be due to their belief that honey is more nutritious than other sweeteners.

About 16.67% of the respondents reported that they buy honey for personal consumption. This agrees with the findings of Ball, (2007) that honey is an important source of carbohydrates and the only widely available sweetener and food suitable for humans of every age (Balsa *et al.,* 2006). The study shows that the respondents are aware of the benefits of honey. Some of the traits influencing consumption of honey as indicated by the respondents in the study area are color (25%) and taste (29.17%). Color of honey defines the natural situation of its production. The information gathered from oral interview showed that the respondents preferred dark and gold color because they believe that dark and golden color honey is more nutritious and unadulterated. This could be as a result of adulteration of honey commonly available in the market. About 45.83% of the respondents reported low quality of honey as one of the factors influencing honey consumption in the study area. Poor post-harvest handling system often results in poor honey quality. This agrees with the findings of Nuru, (1999), that low productivity and quality of bee products are the major economic impediments for beekeepers.

Table 3: Utilization and Traits affecting Honey Consumption

Utilization	Frequency	Percentage
Medicine and therapy	60	50.00
Food processing	40	33.33
Individual consumption	20	16.67
Trait Preference		
Color	30	25.00
Taste	55	29.17
Low quality of honey	35	45.83
Total	**120**	**100**

Sources: Field survey data, 2019

The result in Table 4 shows various distribution channels and sources of bee honey available to the respondents in the study area. Many of the respondents (37.5%) sell their honey in the shops and 33.33% rely on retailers in honey distribution. This result suggests that the respondents engage in large volume of sales. Furthermore, 12.5% of the respondents rely on online transaction in honey distribution. This implies that the respondents' level of patronage of the electronic media as a source of marketing channel is low (12.50%). The respondents indicated that the use of marketing channel is convenient for them, particularly when they do not have the time or financial means to carry out direct marketing. Intermediaries are usually able to make the product widely available and accessible because they have specialized and experienced contacts. Intermediaries take the risks involved in marketing, and also pay for the produce immediately (Boundless, 2015). About 14.67% of the respondents sourced bee honey from the roadside, and 10% from stores. The study further revealed that majority of the respondents sourced from the supermarkets (53.33%), while 22.5% sourced from hawkers. This indicates that the respondents in the study area sale their honey at different places and have different level of customers.

Table 4: Distribution of Respondents according to Distribution Channels and Sources of Bee honey

Channel of Distribution	Frequency	Percentage
Online /Electronic media	15	12.50
Shops	45	37.50
Retailers	40	33.33
Local market	20	16.67
Total	**120**	**100**
Sources of Bee honey	**Frequency**	**Percentage**
Road side	17	14.67
Honey store	12	10.00
Super market	64	53.33
Hawkers	27	22.50
Total	**120**	**100**

Source: Field survey, 2019

The result in Table 5 shows the linear regression estimates of the factors influencing marketing efficiency of bee enterprise in the study area. The R^2 value (0.767) implies that 76.7% of variability in marketing efficiency was explained by the explanatory variables in the model. The F value (35.94) was significant at 1% level, which indicates goodness of fit of the regression line. The coefficient of household size was positively related to marketing efficiency at 1% level; this conforms to an *a prori* expectation as larger house hold size will form part of labour thereby reducing hired labour cost. Marketing experience was related to marketing efficiency directly, at 10 % and 1%. This expected because marketing experience affords the marketers the opportunity of skill acquisition in the business. The results are in agreement with Anyaegbunam and Nwosu, (2012). The results also showed that education was positively related to marketing efficiency at 1%. This implies that an increase in education will lead to increase in marketing efficiency. Education makes farmers receptive to new ideas (Anyaegbunam *et al*., 2006). Transportation cost, interest rate, depreciation and labor cost were negatively related to marketing efficiency at 1% each. This implies that increase in transportation cost, interest rate, depreciation and labour cost will lead to a corresponding decrease in marketing efficiency. Goods that are produced need to be moved from its point of production to sale, as a result of this; transportation has become one of the largest costs in marketing system. The finding is in tandem with Anyaegbunam and Nwosu, (2012). High interest rate is a strong disincentive to marketing efficiency, and the more the labor cost incurred by a marketer the less efficient he/she tends to be. Increase in cost of depreciation implies the use of crude implements, which negates efficiency of marketing.

Table 5: Regression Estimates of Determinants of Marketing Efficiency among Bee Honey Entrepreneurs in the Study Area

Variable	Coefficient	Standard error	t-ratio
Constant	368.5757	56.58928	6.51***
Gender	17.48603	13.29274	1.32
House hold size	20659.69	4089.76	5.05***
Experience	5671.78	3277.45	1.73*
Depreciation(naira)	-0.00196	-4.85e-06	-4.04***
Transportation cost	-0.0042324	-0.0007308	-5.79***
Education	4634.48	1331.54	3.48***
Age	-17.56	-202.55	-0.09
Purchase price`	0.0053145	0.0016088	3.30***
Interest rate%	-0.0054145	-0.0016088	-3.37***
Labor cost	-0.0042324	-0.007308	-5.79***
R^2	0.7673***		
F-ratio	35.94***		
Adj R^2	0.7459		

Source: Field survey, 2019

***** is significant at 1%, ** is significant at 5%, * is significant at 10%**

Table 6 shows the constraints militating against honey marketing in the study area. Decrease in output, increase in cost of production, seasonality of honey were the major constraints indicated by the respondents hence they were ranked first. Shortage of bee forage which necessitates migration to other areas where forage is available ranked second. Yirga *et al.,* (2012) reported that shortage of bee forage is the major constraint affecting the honey sub-sector. Attack of honey bee by pest and diseases was also a major constraint, due to heavy infestation, colonies are being destroyed and it becomes difficult for the bees to replenish the colonies that were affected to a level that is economically viable, this was ranked third. The result agrees with the report of Kerealem, (2005), who indicated that bee honey, badger, bee eater bird, wax moth, spider and beetles were the most harmful pests and predators that attack bee hives.

Table 6 Constraints to Bee honey marketing in the study area

Constraints	Frequency	Percentage	Rank
Decrease in output	25	20.83	1st
Increase in cost of production	24	20.00	2nd
Seasonality of honey	22	18.83	3rd
Shortage of bee forage	18	15.00	4th
Migration	17	14.17	5th
Honeybee pest/diseases	10	8.33	6th
Marketing experience	4	3.33	7th
Total	**120**	**100.00**	

Source: Field survey, 2019

Conclusion

The results of the study revealed that more males are involved in bee honey enterprise. Honey is used mainly for medicinal purposes and is sold mainly in shops. Household size, marketing experience, depreciation value, cost of transportation, education, purchase price, interest rate and labour costs were significant factors influencing marketing efficiency. Decrease in output, increase in cost of production and seasonality of honey were major constraints identified. It is advocated that there should be a collective action among beekeepers/marketers to enhance honey marketing competitiveness, development of a honey market information system that provides up to date information to both beekeepers and honey traders. Bee honey Keepers and marketers should also avail themselves of opportunities of trainings by Research institutions and Local Government Areas to keep abreast of technologies and strategies in beekeeping enterprise. There is also need for rehabilitation of rural road networks to reduce the transactions cost of transportation, as well as provision of soft loans to honey farmers at little or no interest rates for enhanced marketing efficiency.

References

Abdullahi, A., Isekenegbe, J. and Mohammed, U.S. (2014). Comparative economic analysis of modern and traditional bee-keeping in Lere and Zaria local government areas of Kaduna State, Nigeria. *International Journal of Development and Sustainability*, 3 (5): 989-999

Adebiyi, S. (2008). Factors affecting adoption of cocoa rehabilitation techniques in Oyo State of Nigeria. Unpublished Masters Thesis; Department of Agricultural Economics and Extension, Federal University of Technology, Akure. Pp. 1-86.

Adereti F O, Fapojuwo O E and Onasanya A. S. (2006). Information Utilization on Cocoa Production Techniques by Farmers in Oluyole Local Government Area of Oyo State, Nigeria. *European Journal of Social Sciences*, 3(1): 1–7.

Agbamu J.U. (2006). Essential of Agricultural Communication in Nigeria. Malthouse Press Limited, 11B Gorola Street, Off Adeola Victoria Island, Lagos.

Animene, C. P. (2007). An assessment of profitability of honey production in Edo State, Nigeria. Department of Agricultural Economics and Extension Services, Joseph Ayo Babalola University Ikeji, Arakeji P.M.B 506. Ilesa Osun State, Nigeria.

Anyaegbunam H.N and Nwosu, A.C (2012). Analysis of the Determinants of Sweetpotato Marketing Efficiency in Nigeria. 'In' *Agribusiness Development in Nigeria*. Nto, P.O.O, Nwachukwu, I.N and Obasi, R.O (Eds). Published by Toni Prints Services, Aba, Abia State, and Nigeria.ISBN:978-978-51551-0-5. 139 – 149

Anyaegbunam, H. N., Ogbonna, M. C. and Asumugha, G. N. (2006). Determinants of Adoption of Cassava Technologies by Small-scale farmers in Abia State, Nigeria. Proceedings of the 40th conference of the Agricultural Society of Nigeria, held at N.R.C.R.I., Umudike 16th – 20th October, 776 – 780.

Ball D.W. (2007). The Chemical Composition of Honey. *J.chem.edu*., 84(10):1643-1646.

Balsa, M., Candraccim, Accorsiapiacentini P.M., Albertini M.C, Piatti E. (2006). Raw millefiori honey is packed full of antioxidants. *Food chem*.., 97:217-222

Boundless (2015). Types of Marketing Channels: Boundless Marketing. Retrieved Apr. 2016 from www.boundless.com/marketing/textbooksEEA (2004). Industrialization and industrial policy in Ethiopia: Report on the Ethiopian Economy, Vol. III 2003/04. Ethiopian Economic Association/Ethiopian Economic Policy Research Institute, Addis Ababa

Common Wealth (2002) Common Wealth Secretariat Uganda: Strategy for development of the apiculture sector. Final report. EIDD, EMDD. London, 60pp.

Conarad R. (2007). Natural beekeeping: Organic Approach to modern Apiculture, London: Chelsea Green.

Cosmina , M., Galenti, G., Marangon, F. and Troianno, S. (2016). Attitudes towards honey among Italian consumers: A choice experiment approach. *Appetite,* 99:52-58.

Delaplane, K. S. (2008). Bee Conservation in the Southeast; the University of Georgia College of Agricultural and Environmental Sciences, Cooperative Extension Service; Extension Entomologist.

Durrani, A., Srivastava, P. and Verma, S. (2011). Development and quality Evaluation of Honey Based Carrot Candy. *J. Food Sci. Technol.*, 48 (4): 502-505.

Eleazu, C.O., Iroaganachi, M. and Okoronkwo, J. (2013), Determination of the physicochemical composition, microbial quality and free radical scavenging activities of some commercially sold honey samples in Aba, Nigeria: The effect of varying colours, *J. Nutr. Food Sci*., 3 (2):32-41.

FAO, (1990). The nature of food security problem in mainland Tanzania. Assessment and Issues Paper. Pp 166.

Farinde, A. J., Soyebo, K. O. and Oyedokan, M. O. (2005). Exploration of Bee keeping as a Coping Strategy in Deregulated Economy. *Journal of Agricultural Extension*, 8: 76-83.

Gheldof, N. and Engeseth, N.J. (2002). Antioxidant capacity of honeys from various floral sources based on the determination of oxygen radical absorbance capacity and inhibition of in vitro lipoprotein oxidation in human serum samples. *J Agric Food Chem*, 50: 3050-3055.

Ismaiel, S., Zulail, A., Al-Kahtani, S., Al-Ghamdi, A. A. and Adgaba, N. (2014). Factors that affect Consumption Patterns and Market Demands for Honey in the Kingdom of Saudi Arabia. *Food and Nutrition Sciences*, 5:1725-1737.

James, O.O., Mesubi, M.A., Usman, L.A., Yeye, S.O. and Ajanaku, K.O.(2009). Physical characteristics of some honey samples from North-Central Nigeria. *International Journal of Physical Sciences*, 4: 464 - 470.

Jeffrey, A.E. and Echazarreta, C.M. (1996). Medical uses of honey. *Revista Biomedica*, 7: 43–49. 6.

Kamatara, K.(2016). Effects of Hive type and Location on Colonization rate and pest Prevalence, Undergraduate degree research project, Makerere University, Uganda, 36pp.

Kerealem, E., Tilahun, G. and Preston, T.R. (2009). Constraints and Prospects for Apicultural Research and Development in Amhara Region, Ethiopia. Livestock Research for Rural Development. 21 (172).

Kugonza, D. R, Kamatara, K. B., Nabakabya, D. and Kikonyogo, S. (2009). Effects of hive type and tree shade on colonization rate and pest prevalence of honeybee (Apis Mellifera) colonies in Central Uganda, Africa. *Journal of Animal and Biomedical Sciences,* 4(2): 1–5.

Kugonza, D. R. (2009). Beekeeping: Theory and Practice, Kampala: Fountain Publishers. 282pp.

Kugonza, D. R. and Nabakabya, D. (2008). Honey quality as affected by handling, processing and marketing channels in Uganda. *Tropicultura,* 26(2): 113–118.

MAAIF (2000). Ministry of Agriculture Animal Industry and Fisheries. Plan for Modernization of Agriculture: Eradicating Poverty in Uganda. Government Strategy and Operational Framework.

Matanmi. B. M., Adesiji, G. B. and Adegoke, M. A. (2008). An analysis of Activities of Bee Hunters and Beekeepers in Oyo State Nigeria. A*frican Journal of Livestock Extension,* 6:7–11.

Mbah, S. O. (2012). Profitability of Honey production enterprise in Umuahia Agricultural Zone of Abia State, Nigeria. *International Journal of Agriculture and Rural Development*, 15(3): 1268-1274.

Meda A. Lamien C.E., Millogo J., Romito M, Nacoulma O.G.(2004).Therapeutic uses of honey and honey bee larvae in central Burkina faso. *J.ethnopharmacol.*, 95(1)103-107.

Mujuni, A., Natukunda, K. and Kugonza, D. R. (2012). Factors affecting the adoption of beekeeping and associated technologies in Bushenyi District, Western Uganda. *Livestock Research for Rural Development*, 24, Article #133. Retrieved September 4, 2020, from http://www.lrrd.org/lrrd24/8/muju24133.htm

Net Uganda (2002). Beekeeping Project Proposal: To empower local people with skills in beekeeping, as a way of addressing rural poverty and general health issues.

Nuru, A. (1999). Quality state of grading Ethiopian

honey. In: Proceedings of the first national conference of the Ethiopian Beekeepers Association, Addis Ababa, Ethiopia.

Olukosi, J.O, Isitor, S.U. and Ode, M.O. (2005). Introduction to Agricultural Marketing, Price, Principle and Application. Living Books Series G.U. Publication, Abuja, Nigeria. Pp. 75-79.

Onwumere, J., Onwukwe, F. and Alamba, C.S. (2012). Comparative Analyses of Modern and Traditional Bee Keeping Entrepreneurships in Abia State, Nigeria. *Journal of Economics and Sustainable Development*, 3 (13): 333-678.

Ozor, N. and Madukwe, M.C. (2005). Obstacles to the adoption of improved rabbit technologies by small scale farmers in Nsukka LGA. *J. Agric. Food, Environ. Ext. Agro-sci*., 4(1):70-73.

UEPB (2005). Uganda Export Promotion Board. Uganda Apiculture Export Strategy. A Report by UEPB and the Sector Counterpart Team.UEPB/ITC 2005, 34pp.

White, J.W. and Doner, L.W. (1980). Honey composition and properties: Beekeeping in the United States. Agriculture Handbook No. 335, Revised October 82–91.

Yirga, G., Bethlehem, K., Dwit, K. and Alem, M. (2012). Assessment of beekeeping practices in AsgedeTiembla District, Northern Ethiopia: Absconding, bee forage and bee pest. *African Journal of Agricultural research*, 7:1-5.