

HONEY PRODUCTION IN DELTA STATE USING TRADITIONAL HIVES

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ABSTRACT

The study examined honey production in Delta State using traditional hives. Structured questionnaires, survey and interviews were used to elicit information from respondents in fifteen Local Government Areas of Delta State where traditional beekeeping has been identified to thrive. Data collected were subjected to descriptive and inferential statistics using frequency count and percentages. Analysis of variance was used to test for significance and LSD used to separate significant means at 0.05 level of probability. The results showed that more men were into traditional beekeeping and that the straw hive was more popular and the best in terms of yield when compared with clay pot and the Calabash. More awareness and education were recommended.

Keywords: *Traditional bee keeping, Honey production, Delta State.*

No of Tables: 4

No of References: 12

INTRODUCTION

Honey bees (*Apis mellifera*) are one of the most well-known, popular and economically beneficial insects. For thousands of years, man has depended on honey bee colonies to get honey and beeswax which are two major products; honey being the nectar or plant sap ingested by bees (International Bee Research Association, 1992). It is a natural unrefined food and the only unmanufactured sweet available in commercial qualities. It has as many tastes and colors as the flavor and color of plant from which it is derived. Beekeeping is an old art that has been practiced by different generation in many parts of the world using local available materials like pots, gourds, straw, bark and log hives, wicker baskets or skeps some of which are hung on the trees (Jessen, 1967; Weaver and Weaver, 1981; Crane, 1990; Mutsaers, 1993 and Arceet *al*, 1994). Traditional beekeeping activities took place extensively in the northern and central states of Nigeria as reported by (Ojeleye, 1999). Mutsaers, (1993) reported how in Zaria only one man could own as much as a hundred (100) traditional hives in one season. Traditional beekeeping on the trees is practiced mostly by men up north and whereas the few women in the industry are found in the southern and central states of Nigeria where they place their hives on the ground (Mutsaers, 1991). Crane, (1990) reported a harvest of between 15 and 50 liters and 300 liters in southern and northern parts of Nigeria respectively. Kihwele (1991) reported that 99% of the honey produced in Tanzania came from traditional beekeepers that used barrel hives to harness .

The native honey bees *A.mscutellata*; just as quality honey is produced in Egypt from mud hives. Honey bees, though valued for their honey and beeswax production, their most important economic and ecological function is their pollination services which are not quantifiable in Naira and Kobo (Balogh, 1997). Honey can be a lot of things at the same time – antibiotic, antiviral, anti-fungal, anti-inflammatory, antiseptic and analgesic. It can, in addition, relieve nervous disorders, stimulate effective immunity against known and unknown health problems; promote sharp intellect in children; improve digestion; heal wounds, burns and skin rashes; prevents and cures *Diabetes mellitus* (Olagunju, 2000). IBRA, (1991) reported that pure wax was in strong demand and that 90% of beeswax in the world market is used in both the pharmaceuticals and for church candles while the remaining 10% is used in dentistry, electronics, food industry, printing, metallurgy, paper and textile manufacture; and in preparation of varnishes and polishes. As human population increases so also is pressure on land which leads to greater fragmentation of land and an increase in the number of land holdings which ultimately leads to low food production.

To this end, beekeeping is encouraged at the community level as a means of livelihood and biodiversity conservations. It is against this background that a study as this has been embarked upon with the objectives to determine the various kinds of tradition hives used in Delta State and their effectiveness in honey production with a

view to recommending the best hive to rural farmers.

MATERIALS AND METHODS

Data collection methods included survey, interviews and questionnaires. Visits were made to fifteen out of the twenty – five Local Government Areas in the state where traditional beekeeping methods had been identified to take place. The types of hives used and the quantities of honey produced by each of these hives were measured using structured questionnaires administered to 150 respondents distributed ten per Local Government Area covering the three senatorial districts. Information on sex, marital status, age, literacy level and occupation were elicited from respondents. Data collected were subjected to descriptive and inferential statistics using frequency count and percentages. Analysis of variance (ANOVA) was used to test for significance and the least significant difference (LSD) was used to separate significant means at 0.05 level of probability.

RESULTS AND DISCUSSIONS

Table 1 shows the demographic characteristics of the population. The results showed that 90% males and 10% females used the straw hive while in both the clay pot and the calabash it was 100% males. This showed that traditional beekeeping is a male dominated occupation in Delta State. It also showed that the most active age bracket was 51-60 in all the hive types used – straw (75%), clay pot (62.5%) and Calabash (70%), this further underscores the fact that traditional beekeeping is practiced mainly by the aged which obviously could affect productivity. The results also indicated that most traditional beekeepers were farmers using the various hive types – straw (87.5%), clay pot (75%) and calabash(90%). This is an indication that beekeeping could be used to strengthen livelihood.

Table 1: *The Demographic Characteristics of the Population*

S.No	Parameter Measured		Frequency (n=150)	Percentage (%)	Mode
1	Sex Straw	Male	72	90	72
		Female	8	10	
	Clay pot	Male	40	100	
		Female	0	0	
	Calabash	Male	30	100	
		Female	0	0	
2	Age Straw	21-30	0	0	
		31-40	5	6.25	
		41-50	5	6.25	
		51-60	60	75	60

		61-70	10	12.5	
	Clay pot	21-30	0	0	
		31-40	2	5	
		41-50	8	20	
		51-60	25	62.5	25
		61-70	5	12.5	
		Calabash	21-30	0	0
	31-40		2	6.67	
	41-50		4	13.33	
	51-60		21	70	21
	61-70		3	10	
3	Occupation Straw	Farming	70	87.5	70
		Civil Servant	6	7.5	
		Pensioner	4	5	
	Clay pot	Farming	30	75	30
		Civil Servant	2	5	
		Pensioner	8	20	
	Calabash	Farming	27	90	27
		Civil Servant	1	3.33	
		Pensioner	2	6.67	
4	Marital Status Straw	Single	2	2.5	70
		Married	70	87.5	
		Divorced	5	6.25	
		Widowed	3	3.75	
	Clay pot	Single	0	0	
		Married	34	85	34
		Divorced	2	5	
		Widowed	4	10	
	Calabash	Single	0	0	
		Married	21	70	
		Divorced	6	20	
		Widowed	3	10	
5	Level of Education Straw	No formal Education	60	75	60
		Primary	10	12.5	
		Secondary	8	10	

		Tertiary	2	2.5	
	Clay pot	No formal Education	30	75	30
		Primary	5	12.5	
		Secondary	3	7.5	
		Tertiary	2	5	
	Calabash	No formal Education	21	70	21
		Primary	6	20	
		Secondary	3	10	
		Tertiary	0	0	

Source: Field Survey (2009).

Table 2: Type of Hive Used By Respondents

S/N	Type of Hive Used	Frequency	Percentage	Mode
1.	Straw	80	53.33	80
	Clay pot	40	26.67	
	Calabash	30	20.00	
	Total	150	100.00	

Source: Field Survey (2009).

S/N	Type of Hive Used	Annual Yield(kg)	Mean Yield	Price/kg (₦)	Amount/Annum (₦)
1.	Straw	1,200.00	15	500	600,000
	Clay pot	220.00	5.8	500	110,000
	Calabash	174.00	5.6	500	87,000
	LSD 0.05		0.29		

Source: Field Survey (2009).

Table 3: Type of Hive Used By Respondents

S/N	Type of Hive Used	Frequency	Percentage	Mode
1.	Straw	80	53.33	80
	Clay pot	40	26.67	
	Calabash	30	20.00	
	Total	150	100.00	

Source: Field Survey (2009).

Table 4: Total Annual Yield of Honey per Hive Type of Respondents.

S/N	Type of Hive Used	Annual Yield(kg)	Mean Yield	Price/kg (₦)	Amount/Annum (₦)
1.	Straw	1,200.00	15	500	600,000
	Clay pot	220.00	5.8	500	110,000
	Calabash	174.00	5.6	500	87,000
	LSD 0.05		0.29		

Source: Field Survey (2009).

The results also showed that more married people were into traditional beekeeping – straw (87.5%), clay pot (85%) and calabash (70%). This emphasized the fact that traditional beekeeping calls for synergy because of the crude methods used. More people without any formal education abound in traditional beekeeping according to **Table 1** – straw (75%), clay pot (75%) and calabash (70%). This could be responsible for their inability to accept change, training and re training.

Table 2 shows the types of hives used by respondents. The results showed that 53.3% used straw, 26.7% used clay pot 20% used calabash. This showed that the straw hive was more popular in the study area.

Table 3 showed the annual yield of honey per hive type of respondents. The results showed that the straw hive (15) had the greatest mean value followed by clay pot (5.8) while the calabash (5.6) had the least. The analysis of variance (ANOVA) shows that there is a significant difference ($p < 0.05$) in the total annual yield of honey between the straw hive and the others.

The findings of this study could be summarized as follows that:

Traditional beekeeping is a male dominated activity; Most of the practitioners are old. Most of the practitioners are farmers. Good number of them are married. Many traditional beekeepers in the area have no formal education & the straw hive is significantly different ($p < 0.05$) from either the clay pot or the calabash in terms of yield.

CONCLUSION

From the results achieved it was concluded that there was need for a lot of awareness to be created in the industry to enable the women folk to join their male counterparts in beekeeping activities. It was also concluded that the straw hive was the best.

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