



Prospects And Challenges Of Beekeeping In Potiskum Local Government Area Of Yobe State, Nigeria

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Abstract

The study examined the prospects and challenges of beekeeping in Potiskum Local Government Area of Yobe State, Nigeria. The study was carried out through the use of questionnaire and personal observation. A total of 100 pre tested questionnaire was use for the study. Data obtained were analyzed using descriptive statistics. The results shows that majority (58.0%) of the respondents were males with age range between the ages of 41-50years with 41.0%. 76.0% of the respondents are married and 49.0% had secondary school certificate. The findings revealed that 31.7% of the respondents has been in beekeeping business for 1-10 years while 11-20 years of experience had 41.0%. The results of the source and method of honey in the study area indicated that 39.0% of the respondents use tree trunks, while 26.0% and 23.0% make use of woven grass and clay pots respectively. Also 61.0% catches there swarm while 39.0% buys swarm. The purpose of beekeeping revealed that majority keep bee for income generation (51%) while 29% keeps bee for consumption. The problems facing beekeeping in the study area indicated that majority (35.0%) of the respondents rated theft as the major environmental problem, while 19.0% noted fire and few respondents (6.0%) rated windstorm. The solution to beekeeping problem as suggested by the respondents are provision of credits facilities (39.0%) and provision of chemicals is the least with 8%. Thus, efforts should be geared towards vigorous awareness campaign to alleviate the main problems that hindered beekeeping development, provision of beekeeping equipment's, formation of beekeepers society/club and integrating beekeeping with agro-forestry in the study area.

Keywords: Beekeeping, Challenges, Prospects, Potiskum

INTRODUCTION

The term "beekeeping" is one of the branches of agriculture and a form of animal husbandry that includes the collection and care of bee swarms, pollination of field crops by the bees and breeding of bees for products. The main aim is to obtain the desired hive products for various needs required at different periods of the season. It is a special agricultural enterprise that serves as foreign exchange earner for some countries within and outside Africa (Beetsma *et al.*, 2001). Unfortunately, beekeeping as a commercial venture is still largely unexplored in many parts of Nigeria. The field is still at the crude stage with the exception of few farmers and individuals trying to keep pace with modern method (Marieke, 1993). International Center for Tropical Agriculture –ICTA (2003) reported that honey plays a vital role in plants production as well as horticultural production through cross-pollination. Bee products (honey, wax, pollen) are highly demanded by the household, hospitals, pharmaceutical and cosmetic industries for treatment of wounds, ulcers, and as a source of food (Balogun *et al.*, 2007).

Honey's elaboration starts with the nectar collected from many plants, which honeybees transform and combine with their own specific substances, store and leave to mature in honeycombs. This natural product is generally composed of a complex mixture of carbohydrates and other less frequent (Amir and Knipscheer, 1989). Traditional way of beekeeping has been in existence for long. In the early times, beekeeping was no more or less a form of honey hunting. There was no management of the hives. The bees were simply driven out with smoke, killed with fire at the end of the flowering season and the honey with the beeswax taken. This crude method of bee hunting has created a reduction in the quantity and quality of honey being produced. But, however they are disappearing due to the introduction of modern beekeeping.

Modern beekeeping (Apiculture) involves the use of modern techniques to produce honey and other hive product such as royal jelly, bee venom, propolis, wax etc. (Amssalu, 2002). Also, modern beekeeping method requires low capital, it is very easy to learn, it consumes less time and it can be practiced as a small-scale sustainable agriculture as it only require a very small portion of land. It has been scientifically confirmed that honey is very useful in treating many disease e.g. diabetes, Asthma, High blood pressure, disserve, infertility ulcers, lungs, skins, burns, snake's bite, throat sore e.t.c (Amssalu, 2002). Honeybees are of great economic importance because they not only produce honey and bees wax but also act as primary pollinating agents of many agricultural and horticultural crops. It is due to pollination that crop yield increases, quality of seed and fruit improves, and heterosis can be exploited. Beekeeping can play a vital role in sustainable agricultural development as it increases resource without changing environmental balance. As a cottage industry, it is a source of income of the rural people. Beekeeping is one of the important components of integrated rural development programmes (Verma, 1990).

Though beekeeping has potential to bring sustainable values/uses for beekeepers, the prevailing constraints or problems of beekeeping sub-sector are complex and to a large extent varied between agro-ecological zones where the activities are carried-out (Edessa, 2002). Among the problems of beekeeping are ecological and socio-economic conditions, cultural practices, variation in climate (season of the year) as well as behaviour of the bees (Gezahegne, 2001). Edessa (2002) itemized the problems of beekeeping to include; bee sting, abscondment, swarming, fire, pest, disease and theft among others. Assessment of constraint and prospect of beekeeping makes it possible for any organization to plan for future beekeeping, this also is lacking in the study area. The significance of the study is to improve our understanding of honey production useful to develop appropriate beekeeping development strategy plan and indicate future research areas for those who would like to conduct researches on beekeeping. Moreover, the data may be used as secondary data for researchers and any interested parties working in the study area.

MATERIALS AND METHODS

Study Area

Potiskum is located between longitude 11°41'E and 11°E42'N. Potiskum Local Government area covers an area of about 178,550km in size. Potiskum Local Government Area is locally bounded by Jakusko Local Government to the north, Fune Local Government to the south and Fika Local Government to the West. Potiskum is presently the headquarters of Potiskum Local Government Area in Yobe state. It lies within the dry belt climate, under the sudano-sahelian savannah of West Africa. The annual rainfall ranges between 600 – 800mm, which falls within four to five months. The mean annual rainy days is one hundred and six (106) days per annum, the onset of rain varies from May to June and terminates around September to October. Virtually no rain is received during the dry season which last for at least seven (7) months, that is, from November to May. The hottest months are March, April and May with temperature ranging between 38o to 41o (Nyanganji, 2002). Potiskum is a lowland area, which lies North West of kerri-kerri platform formation of the north-eastern part of Nigeria. It comprises of brown and reddish-brown soil called inceptisol soils. These are wide spread in areas with mean annual rainfall of about 600mm. Soil physical characteristics are good but tend to deteriorate under cultivation (Ayuba, 2005). The vegetation is within the Sudan savannah vegetation zone, the region is a specific example of shrub savannah. Large areas of sudano sahelian zone are almost continuously cultivated and little tree remains of the natural vegetation (Ayuba, 2005). *Combretum*, *Acacia spp*, *Commipora spp*, *Adansonia digitata*, *Faidherbial albida*, *Parkia biglobosa*, *Tamarina indica* and *Azadirachta indica* are the most common trees found in Potiskum. While, *Andropogon gayanus*, *Balinites aegyptiaca*, *Guiera senegalensis* and *Piliostigma reticulata* are the dominant grasses in the area, the area provides favorable condition for the production of grains and livestock (Amaza, 2007). The main crops produced in the region include; groundnuts, millet and sorghum. The distinct languages found in Potiskum, Ngizim, Kare Kare, Ngamo, Bolewa, Hausa, Baburawa and Fulani, Kanuris and Yorubas. The study area is one of the most cosmopolitan of all towns in Yobe state; it contributes significantly to the economic, social, educational and political development of Yobe state. The people of Potiskum are predominantly farmers that depend largely on rain fed subsistence farming.

Method of Data Collection

The study was carried out through the use of questionnaire, personal observation and interview with some identified major bee keepers in the study area, by sourcing information on the methods of beekeeping practiced by their and the nature of constraints being faced. 25 copies of questionnaire were randomly

administered on beekeepers in each of the four (4) study communities i.e Alaraba, Fara-fara, Mmuda and Dakasku. A total of 100 copies of pre-tested questionnaires were used for the study.

Data Analysis

Data obtained were analyzed using descriptive statistics where results were expressed in tables, frequency and percentage.

RESULTS AND DISCUSSIONS

The result of the socio-economic characteristics of the respondents in the study area is presented in Table 1. The results shows that majority (58.0%) of the respondents were males, while 32.0% were females. The age range of the respondents reveals that majority (41%) of them falls between the ages of 41-50, while the least (7.0%) fall between the ages of 20-30 years. The marital status of the respondents indicated that majority are married (76%) while 24% are unmarried. Educational level of the respondents shows that the majority (49.0%) had secondary school certificate, while (33.0%) had primary school education and 18.0% had tertiary certificate. The table also revealed that 31.7% has been in beekeeping business for 1-10 years while 11-20 years of experience had 41.0%. Table 2 shows results of the source and method of honey in the study area. The results indicated that 39.0% of the respondents use tree trunks, while 26.0% and 23.0% make use of woven grass and clay pots respectively. The table further revealed that 61.0% catches there swarm while 39.0% buys swarm. The results in Fig1 reveals that 47% of the respondents obtained their information from their parents, while 31% and 22% from farmers and friends respectively. The purpose of beekeeping is shown fig2, it was reveal that majority keep bee for income generation 51% while 29% keeps bee for consumption. The problems facing beekeeping in the study area is represented in Table3. The results indicated that majority (35.0%) of the respondents rated theft as the major environmental problem, while 19.0% noted fire and few respondents (6.0%) rated windstorm. The solution to beekeeping problem as suggested by the respondents were revealed in table4, in which majority of the respondents said provision of credits facilities (39.0%) and provision of chemicals is the least with 8%.

Table 1: Demographic Characteristic Of The Respondents

| Demographic | Variables | Frequency | Percentage (%) |
|----------------------------------|------------------|------------------|-----------------------|
| Gender | Male | 58 | 58.0 |
| | Female | 32 | 32.0 |
| | Total | 100 | 100.0 |
| Age Group | 20-30 | 7 | 7.0 |
| | 31-40 | 23 | 23.0 |
| | 41-50 | 41 | 41.0 |
| | 50 and Above | 29 | 29.0 |
| | Total | 100 | 100.0 |
| Marital Status | Married | 76 | 76.0 |
| | Unmarried | 24 | 24.0 |
| | Total | 100 | 100.0 |
| Level Of Education | Primary | 33 | 33.0 |
| | Secondary | 49 | 49.0 |
| | NCE/ND/HND/Bsc | 18 | 18.0 |
| | Total | 100 | 100.0 |
| Experience in Bee Keeping | 1-10 | 19 | 31.7 |
| | 11-20 | 41 | 41.0 |
| | 20 and Above | 40 | 40.0 |
| | Total | 100 | 100.0 |

Table 2: Methods and Source of Bee Keeping

| Variable | Frequency | Percentage |
|------------------------------|------------|--------------|
| Method of Bee Keeping | | |
| Woven Grass | 26 | 26.0 |
| Tree Trunk | 39 | 39.0 |
| Clay Pot | 23 | 23.0 |
| Modern Hive | 13 | 13.0 |
| Total | 100 | 100.0 |
| Source of Colony | | |
| Catching of Swarm | 61 | 61.0 |
| Buying of Swarm | 19 | 19.0 |
| Total | 100 | 100.0 |

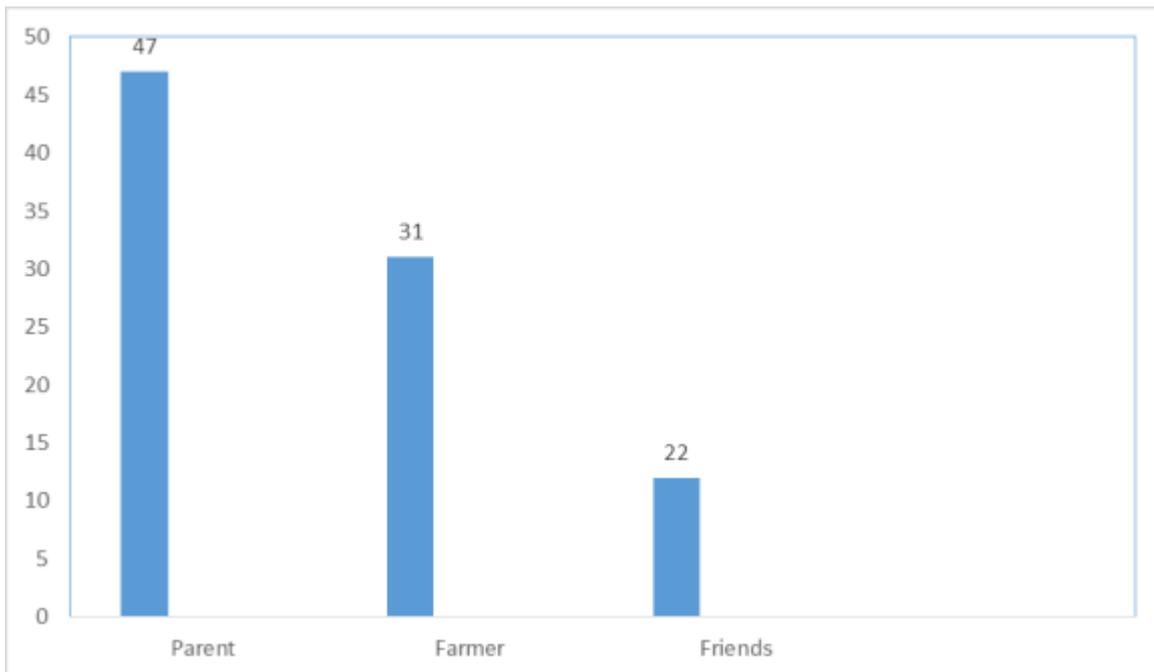


Fig. 1: Source of Information about Beekeeping

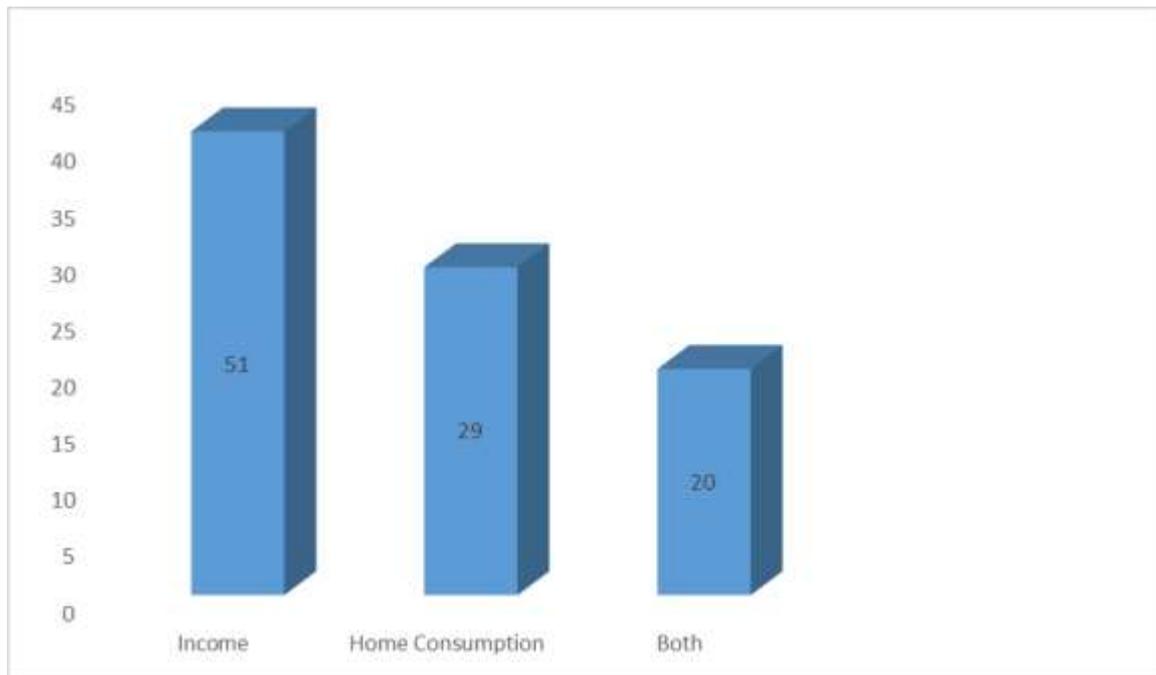


Fig. 2: Purpose of Beekeeping in the Study Area

Table 3: Constraint of Beekeeping in the Study Area

| Variable | Frequency | Percentage (%) |
|------------------------------|------------|----------------|
| Fire | 19 | 19.0 |
| Theft | 35 | 35.0 |
| Swarming | 11 | 11.0 |
| Windstorm | 6 | 6.0 |
| Poor Marketing system | 18 | 18.0 |
| Lack of Credit Facilities | 2 | 2.0 |
| Use of Pesticides/Herbicides | 9 | 9.0 |
| Total | 100 | 100.0 |

Table 4: Possible Solution Beekeeping Problems in the study Area

| Variable | Frequency | Percentage (%) |
|-----------------------------------|------------|----------------|
| Provision of Beekeeping Equipment | 23 | 23.0 |
| Provision of Market | 21 | 21.0 |
| Provision of Credit Facilities | 39 | 39.0 |
| Provision Chemicals | 8 | 8.0 |
| Provision of Training | 9 | 9.0 |
| Total | 100 | 100.0 |

DISCUSSION

This socio-economic characteristic of the respondents in the study area was assessed in which both sexes (male and female) actively participated in beekeeping venture. It was discovered that both married and unmarried participated in beekeeping activities in one form or the other. There is a clear indication that most of the respondents participating in beekeeping activities in the study area were the elderly ones. This finding agrees with that of Akosim *et al.*, (2007) who reported that people of old age with disappearing ideas are the ones keeping bees. This finding equally conforms to that of Sasaki *et al.*, (1992) who revealed that one of the problems of beekeeping is lack of trained personnel, with its activities confined to mostly rural areas.

The level of awareness with respect to beekeeping in the study area has not been encouraging. Such practice is not healthy towards the conservation of bees and their habitat. This finding is in accordance with Ijeomah *et al.*, (2011) who reported that the levels of awareness with respect to beekeeping project in many societies have not yielded any reasonable results.

The main purpose of keeping honey bees were for both income and household consumption, only for income generation and only for home consumption according to their importance. Similarly, Tessega, (2009) reported that the main purposes of keeping bees were source of income and consumption in Nigeria especially among the rural dweller. However, this finding is also in support of Beetsma *et al.*, (2001) who reported that beekeeping as commercial venture is still largely unexplored in Nigeria. Kwaga *et al.*, (2015) also reported that beekeeping is still at its crude stage with exception of few farmers trying to keep them.

The prevailing problems of beekeeping sub-sector are complex and to a larger extent vary between agro-ecological zones where the activities are carried out. The finding of the study indicated that theft and environmental influence were rated as the most urgent problems of beekeeping in the study area. This is in agreement with the report of Keralem, (2005) who reported that beekeepers are having a difficult summer due to theft. The finding as well revealed that swarming served as one of the major ecological problems facing beekeeping in the study area. From the findings of this study, the use of chemicals was complained by quite a number of the respondents as being their major practical problems of beekeeping in the study area. This finding is also in strong agreement with that of Keralem, (2005) who reveals that the use of chemicals for crop pest and weed control brings into focus the real possibility of damaging the delicate equilibrium in the colony as well as contamination of hive products.

CONCLUSION

The study examined the leading constraints of beekeeping as a field of study in the area. Some of the existing problems facing the apicultural sub-sector in the study area include; theft, swarming, harvesting equipment, use of chemicals, poor marketing system, lack of credit facilities and windstorm. Thus, efforts should be geared towards vigorous awareness campaign to alleviate the main problems that hindered beekeeping development, provision of beekeeping equipment's, formation of beekeepers society/club and integrating beekeeping with agro-forestry and crop production in the study area.

RECOMMENDATIONS

Based on result and conclusion from this study, it is imperative to make the following recommendation in order to improve the efficiency of honey marketing in the study area.

- Government should put in place adequate and efficient credit facility for worthy honey marketers so as to finance their honey marketing activities while the honey marketers should organize themselves to co-operative society so as to be able to access loans and credit from various financial institutions.
- Honey marketers should be educated on the marketing strategies that will enhance honey marketing.
- There is need to sensitize the public on the importance of honey to healthy living while the association of honey marketers should put in place strategies for detecting fake / adulterated honey with defaulters being prosecuted

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