IMPROVING THE MANAGERIAL COMPETENCIES OF HONEY BEE FARMERS FOR POVERTY REDUCTION IN SOUTH EAST ZONE OF NIGERIA

BY

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Abstract

The study was designed to improve the competencies of bee farmers for poverty reduction and was carried out in South-East Zone of Nigeria. The population of the study was 781 respondents, which comprised of 590 agricultural extension officers and 191 registered bee farmers in the Zone. The sample size was 474 respondents comprising 372 agricultural extension officers and 102 bee farmers, drawn sing simple random sampling technique. The instrument used for data collection was a structured questionnaire developed by the researcher. The instrument was face validated by experts. The reliability coefficient of 0.75 was computed using Cronbach Alpha. Two (2) research questions and two (2) hypotheses guided the study. Mean with standard deviation was used to answer the research questions, while One Way Analysis of Variance (ANOVA) was used to test the null hypotheses at 0.05 level of significance and at the appropriate degree of freedom. The data collected were analyzed and the result showed that the ten (10) competencies examined by the study regarded beehive management were possessed at low extent. The study also showed that the ten (10) strategies identified in the study were reliable enough to improve bee farmers competencies in this competency area investigated. More so, the findings regarding the two null hypotheses revealed that hypotheses one (Ho_1) was not rejected while hypothesis two (Ho_2) was rejected. Therefore bee farmers improvement depend on the relevant and appropriate (farm education) extension education adopted by extension officers in delivering the extension package. Based on the finding, some implications were deducted from the study and recommendations were made, one of which is that all the identified competencies and strategies for successful bee farming should be incorporated into the extension packages for bee farmers delivered to them properly by extension officers.

Introduction

Management is an active process of decision making so that the available human and material resources of an enterprise are effectively utilized through the co-ordinating performance of the function of management, planning, and controlling in order to accomplish the aims and objectives of the enterprise (Osuala, 2001). Bee hive management therefore, is the sum total of all the processes and orientation adopted by the bee farmers to get their work done through their sub-ordinates. Kent (2011) points that a manager's particular way, manner or pattern of considering or handling his tasks is referred to as management. The efficient management of livestock and mini-

livestock (bee) is paramount to the success of the enterprise (Falusi, 2000). Management is an instrument and machinery that controls agricultural enterprise of any kind and success of any organization depends on how it is furnished with its needs (Akinyosoye, 2003). This implies that bee farmers should have adequate knowledge on how to maintain, care for the bee hive and other facilities in use in bee farming. The degree of success of any livestock and mini-livestock (bee) enterprise depends on the level of management competencies of the bee farmer.

The best way to gain skill in handling bee is to practice (Peterson, 2006). Practice makes perfect in many activities. There are several points to recognize in bee handling. Firstly, the entrance should be observed carefully as it reveals useful information since activities at the entrance indicates a healthy colony. The bees should be coming in with pollen and nectar. If there is little activity, there may be a problem in the hive or a shortage of nectar. An abundance of drones suggests the presence of a chrome-laying queen. If bees are clustered around the entrance, this might suggest that hive is crowded and the bee may swarm. It may be time to add supper or harvest some of the honey. Sometimes, it may be possible to hear the bees fanning. They are removing excess moisture from the nectar they collected, so this indicate that they have been working hard. All these practices and signs can be only handled effectively if the bee farmers are experienced and demonstrate high level of competency. To achieve this standard, bee farmers should be properly exposed to competency training and retraining (Alio and Uzor 2010). Furthermore, seminars, provision of extension education and utilization of appropriate extension teaching methods is an ideal for improving farmers knowledge, skills and attitude (competency) for improving productivity in any agricultural enterprise. In the same vein, White (1992) identified these competencies in beehive management: ability to provide adequate security, use of slate to cover bee box, maintain healthy environment, repair beehive, prevent bees from sunlight and rain, prevent overcrowding, identify sign of bee disease for treatment and keeping appropriate bee farm record. For bee farming to be lucrative, reduce poverty of bee farmers and other people in the society, bee farming management competencies need to be improved. Galesbury (2007) explained that improvement is an activity undertaken based on meeting the target proposal. In the view of Olaitan, Alaibe and Ome (2000), it is the process of making something better. With reference to this study, improvement means anticipated change that could occur by improving management competencies of bee farmers for successful honey and other hive production to reduce poverty.

Poverty is a common phenomenon which affects the urban and rural dwellers. Poverty according to the United Nations Development Programme (UNDP, 1997) can mean more than a lack of what is necessary for material well being. It can also mean the demcil of opportunities to choices of many basic needs of human development to live a long, healthy creative life and to enjoy decent standard of living, freedom, dignity, self esteem and

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between the mean responses of extension officers in the sampled states of the South-East Zone of Nigeria based on the various States on the strategies for improving bee famers competencies for beehive management.

Methodology

The study adopted a survey research design since the study obtained data from agricultural extension officers and bee famers in South East Zone, through the use of questionnaire.The study was conducted in South-East Zone of Nigeria comprising five states namely: Abia, Anambra, Ebonyi, Enugu and Imo states. The choice of the South East was necessitated primarily because the climate of these states favour apiculture business. The population for the study was 781 respondents, comprising 590 agricultural extension officers and 191 registered bee farmers in the South East Zone. These data were based on the records with planning, monitoring and evaluation office of Agricultural Development (ADP) in South East States. The sample size for the study was 474 respondents, comprising 372 extension officers and 102 bee farmers in the study area. Simple random sampling technique was used in selecting three states namely: Anambra, Ebonyi and Enugu states out of the five states in the zone. This was done through balloting.

A structured questionnaire consisting of 20 items was used to collect information from the respondents. The instrument was subjected to face validation by three expertises: one from the department of technology and Vocational Education, Enugu State University of Science and Technology (ESUT), another from the Department of Vocational Teacher Education, University of Nigeria, Nsukka and another person from the Department of Agric Economics and Extension, NnamdiAzikiwe University, Awka. The reliability of the instrument was established using Cranach Alpha statistical tool which yielded the reliability co-efficient of 0.75. Mean and standard deviation were used to analyze the research questions. For the determination of the degree of agreement of the respondents to each item, the principles of upper and lower limits were applied. Any item statement that had a mean score of 3.50 and above was regarded as very high extent and strongly agreed; 2.50 – 3.49 as high extent and agreed, 1-50-2.49 as low extent and disagreed and 1.00 –1.49 very low extent and strongly disagree.However, the null hypotheses were tested using One Way Analysis of Variance (ANOVA) at 0.05 level of significance and appropriate degree of freedom (df). ANOVA was considered appropriate for these hypotheses.

Results

The results are presented in tables according to the research questions and hypotheses.

Table 1: Mean ratings on the competencies possessed by bee farmers for beehive management for poverty reduction in South East Zone of Nigeria.

S/n	Competencies possessed by bee farmers for beehive management	Anambra State Bee farmers	Ebonyi State Bee farmers	Enugu State Bee farmers	Overall	Dec

Table 1 above shows the mean and standard deviation of the responses of bee farmers on the level of competencies possessed for bee hive construction for poverty reduction. The results shows that bee farmers in south east zone received mean ratings ranging between 1.34 and 2.04, 1.44 and 2.31 and 1.53 and 1.80 respectively which were all within the weighed mean for low competencies possession of the competencies investigated. However, the overall mean (ranging between 1.52 and 1.86) indicated that the respondents in the zone agree that bee farmers in the south east zone possessed the ten (10) competencies items investigated at low extent. Therefore, since the bee farmers do not possess any of the ten (10) competencies at very high extent level for enhanced performance, it implies that they needed improvement in their competencies to move the apiculture industry forward. The closeness of the standard deviation as shown by the overall SD (0.66 -0.82) indicates homogeneity in their responses, which implies that bee farmers needed improvement in their capacity.

Table 2: The summary of One Way Analysis of Variance (ANOVA) on the mean responses of bee farmers of the 3 states on the level of competencies possessed by bee farmers for beehive management in south-east zone of Nigeria

Sourcesof variation	df	Sumof squares (SS)	Meanof Squares (MS)	F-cal	F-ratio	Sig	Dec

Table 2 above presents the summary of One Way Analysis of Variance (ANOVA) of the mean rating of bee famers with regard to beehive management competencies possessed by bee farmers in the South East Zone of Nigeria. It can be observed from the table that the calculated F-value is 2.64 and the critical value of F is 3.00. The result indicates that the F-cal (2.64 is less than the table value of F. therefore, the null hypothesis is not rejected. This means that there no significant difference between the responses of the respondents from the three states sampled. What this implies is the responses from the South East States donot differ with regards to their opinion in the competencies possessed by bee famers for beehive management.

Table 3: Mean rating of Extension officers on the strategies for improving beehive construction competencies of bee farmers for poverty reduction in South-East Zone of Nigeria.

S/n	Strategies for improving beehive management competencies of bee farmers	Anambra State Extension officers	Ebonyi State Extension officers	Enugu State Extension officers	Overall	Dec

Table 3 above shows that the mean with standard deviation of extension officers with respect to the strategies for improving beehive management competencies of bee farmers in South East Zone of Nigeria. The result shows that the mean with standard deviation scores range from 3.03 –3.56, 2.59 – 3.24 and 2.89 – 3.64 for extension officers in Anambra, Ebonyi and Enugu States respectively. These mean ranges were within the mean benchmark range of 2.50 – 4.00 for agree response. Then, the overall mean for the entire respondents agree to the ten (10) strategies, as being capable of improving the competencies of bee farmers for beehive management. Hence, the strategies can be adopted in improving bee farmers competencies for enhanced beehive management. The overall standard deviation for these group of respondents from the states range between 0.72 – 0.92. The closeness of these standard deviation suggests that the

Table 4: The summary of One Way Analysis of Variance (ANOVA) on the mean responses of Extension of Officers on the strategies for improving beehive management competencies of bee farmers in south east zone of Nigeria.

Sources of variation	df	Sum of squares (SS)	Mean of Squares (MS)	F-cal	F-ratio	Sig	Dec

The opinion of extension officers are compared as shown in table IV above and the results reveal that the calculated F-ratio (8.52) is greater than the critical ratio of 3.00 at 0.05 level of significance. Therefore, the null hypothesis is rejected and hence, significant. This implies that significant difference exists in the mean ratings of extension officers in these states on the strategies for improving bee farmers' competencies for beehive management for poverty reduction in South-East Zone of Nigeria.

Discussion of Results

From the study it was found that the ten (10) competency items identified with respect to beehive management were possessed at low level by bee farmers in the south-east zone of Nigeria. The result of null hypotheses revealed that the mean ratings of bee farmers on the competencies possessed by bee farmers for beehive management for poverty

reduction in south-east zone of Nigeria did not differ significantly. The null hypothesis was therefore upheld. The findings were in an agreement with the finding of Falusi (2000) who agreed that possession of different management skills of livestock and mini-livestock (bee) was paramount for the success of the enterprise. This is because management is an instrument and machinery that controls agricultural enterprise of any kind. In another development, Onu and Ohagwu (2010) identified similar competencies as ability to clear dirt thoroughly, ability to coat the ridges and rough surfaces in the hive body, ability to control the swarm by killing the queen cells, ability to replace non-active queen among other findings. Similarly, the findings confirms the findings of Netnga and Mongongo (1998) that stocking of bees, the knowledge of swarming season of bee in any area of operation and proper preparation of beehive like coating of the ridges and rough surfaces of beehive are essential for stocking of bees. Falusi (2000) further states that efficient management of livestock is second to nothing in terms of working towards profit making. He emphasized that livestock is like machine, it gives you what you want depending on how you have furnished it with, what it needs. It was further identified that unless bee farmers possessed these competencies at high extent, they cannot move the apiculture to sustainable level for poverty reduction.This means that although the competencies in beehive management investigated were prerequisite for optimum beehive management but bee farmers did not possess them at high extent for improving the beehive management competencies of the bee farmers for poverty reduction.

Table 3 revealed that the ten (10) strategies identified regarding beehive management were potential strategies capable of improving bee farmers competencies in beehive management. The null hypothesis is rejected since the F-cal is greater than the F-critical and hence significant. This implies that significant difference exists in the mean ratings of extension officers in the sampled states on the strategies for improving bee farmers competencies for beehive management for poverty reduction in South East Zone of Nigeria. This finding was in conformity with the findings of Matanmi et al (2008) who found that knowledge and skill in bee farming is necessary for enhance honey production. In the same vein, Idenyi and Owo (2013) in the work titled enhancing beehive management for sustainable production in Ebonyi State. In that study, they found that the fifteen (15) factors identified in the study were viable strategies for enhancing management competencies of bee famers in Ebonyi state. These strategies included: educating farmers on the techniques of replacing non-active queen, organizing workshops, seminars on healthy environment maintenance practices, conducting group lecture and demonstrations with emphasis on providing adequate security. Furthermore, Attified (2000) agreed that a bee farmer should have knowledge of the

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best time to work with bees as well as mastering the apiary bee calendar to follow up all the activities of the bees throughout the year. They also observed that with new innovation of bee farming, the traditional ways bee hunting is fast giving way to the modern beekeeping that reduce the long aged phobia of bee sting through the application of the modern tools and technologies. Akinysoye (2003) identified that management was an instrument and machinery that controlled agricultural business of any kind, since success of an organization depend on how one furnished it with what it needed. This implied that bee farmers operated with very few hives while others folded hence, needed to be awakened for the sake of creating employment for poverty reduction.

This could be done by utilizing the strategies identified in this study with respect to research question 1 and 2 of this study since they were found to have the potentials enough in improving the bee farmers competencies in this competency area studied. Further, this study made the contributions to wealth of knowledge in the competencies to be possessed by bee farmers and the strategies for improving their competencies as shown in the summary of the findings.

Conclusion

The bee farmers did not possess adequate competencies required for beehive management to move the apiculture industry to sustainable production level. For this reason many bee farmers operated with very few hives while other folded hence, needed to be awakened for the sake of creating employment for poverty reduction.

This could be done by utilizing the strategies identified in the study with respect to research question 2, items 11 - 20, since they were found to have the potential enough to improve bee farmers competencies in this competency area studied. Further, the study made the contribution to wealth of knowledge in the competencies to be possessed by the bee farmers and the strategies for improving their competencies as shown in the findings.

Recommendations

Based on the findings of the study, the following recommendations were proffered.

1. All the identified competencies and strategies for successful bee farming should be incorporated into the extension package for bee farmers, delivered properly by extension officers.
2. The curriculum planners and the government through ministry of education should provide schools with modern bee farming instructional materials for agricultural science/ animal husbandry teachers to teach and instruct students (would be farmers).
3. Bee farmers should be encouraged to develop competences in bee farming involving them through

learning by doing, not utilizing only casualworking.

4. Extension officers should be given opportunity to upgrade their knowledge, skills and attitude from time to time through in service training, seminars and workshops.
5. Financial credits should be made available to bee farmers in kind and in the form of inputs or soft loans.

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