Entrepreneurial Skills Required by Secondary School Graduates for Economic Success in Honey Production in Kogi State, Nigeria

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Abstract

The purpose of this study was to identify the entrepreneurial skills required by secondary school graduates for economic success in honey production in Kogi State, Nigeria. A survey research design was used for the study. Two research questions guided the study, two null hypotheses were posited and tested at 0.05 level of significance with 37 skill item questionnaires. The instrument was face validated by three experts in the unit of Agricultural education in the department of vocational and special education of the University of Calabar with reliability co-efficient of 0.92 using Cronbach alpha method. This was administered to a simple purposive sample of thirty (50) male bee farmers and ten (30) female bee farmers drawn from a population of two hundred and seventy one (271) bee farmers. Skill Required Index (SRI) was used to answer the research question while independent t–test analysis was used to test the hypothesis. The result of data analysis revealed that all the 40 skills identified in the study were required by secondary school graduates for economic success in honey production enterprise. Based on these findings appropriate recommendations were made.

Keywords: Entrepreneurial, Graduates, Production, Skills, Success, Kogi state and Nigeria.

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1. Introduction

Bees (*Induce apis*) commonly called Honey bees belong to the genus (*Apis),* Tribe (*Apini*), Sub-family (*Apinae*), Order (*Hymenoptera*), Class (*Insecta*), Phylum (*Arthropoda*) and Kingdom (*Animalia*). Honey bees form nectar into honey by a process of regurgitation and store it as a primary food source in wax honey combs inside the beehive. In the hive, the bees use their honey stomachs to ingest and regurgitate the nectar a number of times until it is partially digested (Standifer, 2007). The bees work together as a group in the regurgitation and digestion until the product reaches a desired quality and stored in honey comb cells. After the final regurgitation, the honey comb is left unsealed. However the nectar is still high in both water content and natural yeasts which if unchecked would cause the sugar in the nectar to ferment (Natural Honey Board, 2010). The main purpose of bees is the production of honey.

Honey is sweet food with its unique composition and chemical properties suitable for long term storage and is easily assimilated even after long preservation. Honey and materials immersed in it has been preserved for decades and even centuries. The main uses of honey are in cooking, baking, as a spread on bread, as an additive to various beverages such as tea and as a sweetener in some commercial beverages. Honey is also the main ingredient in the alcoholic beverages known as honey wine and honey beer. Honey is bred in Nigeria for income earning and human consumption. Honey production is a good business enterprise in which farmers in Kogi state, Nigeria invest their resources to generate income. For economic success and effective management in honey production, an entrepreneur is required.

Entrepreneur as explained by Uduma in Onwuka and Olaitan (2007) are people who create and manage a business undertaking bearing the risk for the sake of profits. MacGregor (1993) explained an entrepreneur to mean a movement in a business whose function is to bring some positive change through interaction with the government to promote sustainable development in business especially where entrepreneurship is required. In the context of this study, an entrepreneur is an individual that is involved in the management of all activities in the business of honey production. For effective management as an entrepreneur in honey production some certain skills are required. Skill in the opinion of Hornby (2007) is the ability to perform tasks expertly. Osinem (2007) explained skill as the ability of a person to perform an act expertly.

Continuing the author stated that it is therefore expertness, practice, ability and proficiency displayed in the performance of a task. According to Olaitan, Ifeanyieze and Omeje (2008) those skills that are required for effective management in honey production are the skills required for planning, site selection and construction of beehives, stocking and feeding of bees, harvesting and marketing of bee products. These skills are required by secondary school graduates in honey production.

Secondary school graduates as defined by National Policy on Education (NPE, 2004) are those who have successfully completed six years in secondary school education. Elizabeth (2008) defined secondary school graduates as those who have completed their secondary school education and are pursuing to gain admission into higher institutions. In the context of this study, secondary school graduates are those students who have passed through three years of junior secondary school and three years of senior secondary school and have sat for the required qualifying examination (West African Examination Council and National Examination). These graduates require these skills in order to help themselves and be useful to the society.

2. **Statement of the Problem**

According to the revised National Policy on Education (1981) in its objectives of Agricultural Science, it is expected that graduates from secondary school should be able to cultivate at least two crops and rear two animals that are popular in their locality. In Kogi state, beekeeping is a popular occupation engaged in by the people of the state. It is expected that while students were in secondary school, they should have been taught skills in beekeeping to enable them make a living after graduation.

The researchers' observation and interaction with some of these graduates revealed that they did not possess adequate skills in the area of planning and site selection and beehive construction in beekeeping. Further investigation showed that these students were not adequately taught skills in beekeeping that could make them end a living by taking to that occupation. Consequently, these graduates were found loitering the streets and causing social nuisance like pilfering, house breaking and menial hooliganism in their communities.

It is in the view to engage these graduates in gainful occupation in order to eliminate or reduce these vices that the researchers feel that if skills in planning and site selection and beehive construction in beekeeping are identified and packaged as a retraining programme for these youths, it could help them to become gainfully employed, self reliance and contribute meaningfully to the economic growth of the state in particular and Nigeria in general hence this study.

3. Purpose of the Study

The main purpose of this study is to identify entrepreneurial skills required by secondary school graduates for economic success in honey production in Kogi State, Nigeria. Specifically, the study sort to identify the skills required for:

i)   planning beekeeping for economic success in honey production
ii) site selection and construction of beehives for economic success in honey production

4. Research questions

The following research questions guided the study: -

(i) What are the skills required in planning for economic success in honey production?
(ii) What the skills required in site selection and construction of beehives for economic success in honey production?

5. Research Hypotheses

The following research hypotheses were generated and tested in the study.

i)   There is no significant difference in the mean ratings of male and female bee farmers on the planning skills required by secondary school graduates for economic success in honey production.
ii) There is no significant difference in the mean ratings of male and female bee farmers on the site selection and construction of beehives skills required by secondary school graduates for economic success in honey production.

6. Research Methodology

This study utilized the survey design. This study was carried out in Kogi State, Nigeria. The population of the study was two hundred and seventy–one (271) bee farmers. This population comprise of two hundred and three (203) male bee farmers and sixty–eight (68) female bee farmers. The study utilized the purposive sampling technique to select 50 male bee farmers and 30 female bee farmers. The instrument used for data collection was Skills Required in Honey Production Questionnaire (SRHPQ). The respondents were expected to identify which of the skills are required planning and site selection and beehive construction in honey production using four point scale of Highly required (HR), Required (R), Slightly required (SR) and Not required (NR). The instrument was face validated by three experts in the unit of Agricultural Education of the University of Calabar. The reliability of the instrument was determined using Cronbach alpha technique which yielded a co–efficient of 0.92 indicating that the instrument is 92% reliable.

The researchers utilized the assistance of three extension agents in the State Ministry of Agriculture. The instrument were coded based on the four points response scale of highly required (4), required (3), slightly required (2)and not required (1) The scores of each respondent were summed together and the mean score obtained for each item with their corresponding standard deviation. The values obtained (mean and standard deviation) where manipulated to answer the research questions and test the hypotheses. In answering the research questions any skill with a mean score of 0.00 to 1.0 indicates that the skill is not required while any skill with the mean score of 1.01 to 4.0 indicates that the skill is required.

7. Results

7.1 Research Question 1

What are the skills required in planning for economic success in honey production. The data for answering research question 1 are presented on table 1 below:

Table 1: Planning skills required by secondary school graduates for economic success in honey production

S/N	Planning skills	Mean	S.D	Remark
1	Make contact with established bee keeping farmers	2.32	1.52	Required
2	Formulate specific objectives for bee keeping	1.93	1.39	"
3	Review the objectives periodically to meet economic situation	2.51	1.58	"
4	Decide on where to locate the beehives	3.14	1.77	"
5	Identify relevant personnel	3.60	1.90	"
6	Identify relevant farm input required for bee keeping	2.93	1.71	"
7	Identify relevant records to keep	1.81	1.35	"
8	Make budget for bee keeping	3.01	1.73	"
9	Identify source of fund	2.72	1.64	"
10	Identify the crucial issues influencing bee keeping business	1.92	1.39	"
11	Spot the ideal customers	1.60	1.26	"
12	Recognize your real rivals and how to present the business uniquely	1.80	1.34	"
13	Identify how to create multiple and repeat revenue streams to expand the business	2.81	1.68	"
14	Create a time scale and work plan	2.63	1.62	"
15	Develop equity value to make sure you get maximum returns	2.83	1.68	"
16	Take into account poor colonization and absconding of bees	1.92	1.39	"
17	Identify the species and races of bees that are more productive.	2.04	1.43	"
18	Take into account the value of environment benefit such as increased crop pollination	2.12	1.46	"

The table above indicated that all the skill items in the table had their mean ranged between 1.60 (item 11) and 3.60 (item 5) and they are all higher then 1.00 which indicates that all the 18 skill items in planning are required by secondary school graduates for economic success in honey production.

7.2 Research Question 2

What are the skills required in site selection and construction of bee hives for success in honey production. The data for answering research question 2 are presented on table 2 below:

Table 2:Site selection and construction of beehives skills required by secondary school graduates for economic success in honey   production

1	Site beehive on a fenced plot of land that is not immediately inhabited	1.93	1.39	"
2	Identify traditional beehive that is adaptable in an area	3.73	1.93	"
3	Site apiary close to home of the beekeeping for regular inspection of operation	1.84	1.36	"
4	The path leading to apiary should be good	2.03	1.42	"
5	Mould two clay pots for bees	3.11	1.26	"
6	Tie two clay pots together at their open end to form an enclosure	3.04	1.74	"
7	Perforate both ends of the two pots to serve as entrance and exit of bees	2.92	1.71	"
8	Put appropriate baiting materials to attract bees	3.64	1.91	"
9	The pot on a crotch of fee for a catch or introduce a swarm of bee	2.55	1.60	"
10	Identify modern beehive that is adaptable in area of operation such as langtroth live	1.80	1.34	"
11	Select wood that is wrap-proof resistance to the rooting effect of sun and rain	3.64	1.91	"
12	Reduce the wood to part of a box following the given specification	2.15	1.47	"
13	Introduce appropriate chamber and accessory into the box	2.33	1.53	"
14	Introduce four legs into the box like table	1.93	1.39	"
15	Introduce baiting material into the chamber	3.74	1.93	"
16	Construct the hive to about 8 – 10 frame	2.13	1.46	"
17	Construct multiple bee hives vertically or horizontally	2.41	1.55	"
18	Hive parts should have same measurement so that frames can be exchanged between hives	3.01	1.73	"
19	Protect the outside of hive with varnish or paint	1.84	1.36	"

From the table above all the skill items in site selection and construction of beehive had mean ranged between 1.80 (item 10) and 3.74 (item 15) and they higher that 1.00. This indicates that all 22 skill items in site selection and construction of bee hives are required by secondary school graduates for economic success in honey production.

8. **Hypothesis Testing**

8.1 Hypothesis 1

There is no significant difference in the mean ratings of male and female bee farmers on the planning skills required by secondary school graduates for economic success in honey production. This hypothesis was tested using independent t–test analysis. The result of the analysis is presented on the table below.

Table 3: Independent t–test analysis to determine the difference in the mean ratings of male bee farmers and female bee farmers on the planning skills required by secondary school graduates for economic success in honey production.

Variables	N_1 N_2	$\overline{X_1}$ $\overline{X_2}$	SD_1 SD_2	t–cal
Male bee farmers	50	58.31	7.63	0.497
Female bee farmers	30	57.44	7.58	

$P > .05$; df = 78; crit. t = 2.000

The analysis above showed that the calculated t–value of 0.497 was found to be less than the critical t–value of 2.000 when tested at 0.05 level of significance with 78 degree of freedom. This implies that the result is not significant therefore the null hypothesis was accepted while the alternate hypothesis was rejected.

8.2 Hypothesis 2

There is no significance difference in the mean ratings of male and female bee farmers on the site selection and construction of beehive skills required by secondary school graduates for economic success in honey production. This null hypothesis was tested using independent t-test analysis. The result of the analysis is presented on table 4 below.

Table 4: Independent t–test analysis to determine the difference in the mean ratings of male bee farmers and female bee farmers on site selection and construction of beehive skills required by secondary school graduates for economic success in honey production.

Variables	N_1 N_2	$\overline{X_1}$ $\overline{X_2}$	SD_1 SD_2	t–cal
Male bee farmers	50	69.47	8.33	0.712
Female bee farmers	30	68.11	8.25	

$P > .05$; df = 78; crit. t = 2.000

The above analysis showed that the calculated t–value of 0.712 was found to be less than the critical t–value of 2.000 when tested at 0.05 level of significance with 78 degree of freedom. This implies that the result is not significant therefore the null hypothesis was accepted while the alternate hypothesis was rejected.

9. Discussion of Findings

Hypothesis one, which was stated in the null form that there is no significance difference in the mean ratings of male and female bee farmers on the planning skills required by secondary school graduates for economic success in honey production was tested at 0.05 level of significance with 78 degree of freedom. The result revealed that the difference in the mean ratings of male and female bee farmers do not differ significantly. This means that all the 18 skill items in planning were required for economic success in honey production enterprise. This finding is an agreement with the view of Okenwa (2002) who stated that planning skills is the business of identifying goals and objectives of working out ways and means of achieving them, the author went further to identify 10 planning skills that are required for economic success in honey production enterprise. The result also agree with Olaitan, Ifeanyieze and Omeje (2008) who outlined 8 planning skills and Caron (2001) with 8 planning skills required by secondary school graduates for economic success in honey production.

The second hypothesis which was stated in the null form that there is no significant difference in the mean rating of male and female bee farmers on site selection and construction of bee hive skills required by secondary school graduates for economic success in honey production was tested at 0.05 level of significance in the mean rating of male and female bee farmers do not differ significantly which means that all the 19 skill items in site selection and construction of beehive were required for economic success in honey production enterprise. The findings of this study is in agreement with the view of Agbarevo (2003) who stated that site selection skill is the process of choosing the optimal location for a business based on accessibility to and availability of customers as well as consideration as to space cost, size and other physical characteristics, zoning regulation, investment tax credits and the quality of the available work force. The author further stated that construction of beehive skills is an act of making or forming by combining or arraying parts or elements to produce beehive. He identified 8 site selection and construction of beehive skills. This result also agrees with Crane (1990) who identified 7 site selection and construction of beehive skills.

10. Conclusion

The findings of this study showed that all the 37 skill items identified in the study where required by secondary school graduates for economic success in honey production enterprise. There's therefore the need to educate this building population of secondary school graduates to be properly informed and trained in this area of this enterprise (honey production) so that they could find themselves self employed or employed by other bigger honey production enterprise for them to be able to make a living. This could assist in reducing the social menace posed by this graduates as a result of idleness and also could contribute to the socio-economic well-being of their individual families and even to a large extent their state and nation as a whole.

11. Recommendations

Stemming from the result of this study, the following recommendations were made: -
1) If the identified skills are packaged into a retraining programme and the secondary school graduates are made to undergo this programme, this could help them to become self reliant and self sustaining.

2) If teachers of agricultural science are encouraged to teach skills during the period of school instruction and the students are made to pass through it during their period of studies, this could cause them to develop interest thereby encouraging them to go into the business of bee keeping.

3) If curriculum planners are advised to integrate the identified skills into the school curriculum this could provide avenues for teachers to use this curriculum effectively to teach the students these skills and the students will then become acquainted with this and by so doing become interested in the business of bee keeping after graduation.

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