ENTRY LEVEL SKILLS REQUIRED BY NCE GRADUATES OF AGRICULTURAL EDUCATION IN PROCESSING OF SNAIL IN SNAIL FARMING ENTERPRISE IN SOUTH EASTERN NIGERIA.

Chinwe Rosita Umeh

Abstract

The purpose of this study is to investigate the skills required by NCE graduates of Agricultural education in South Eastern Nigeria for processing and marketing of snail for employment on graduation. Two research questions and hypotheses guided the study. The study made use of survey research. Five experts validated the instrument. The population of the study was 312 made up of 76 lecturers and 236 extension agents working in the study area. The instrument used for data collection was 22-skills structured questionnaire which was face validated by three experts. Cronbach alpha coefficient was used to determine the internal consistency of the instrument. The questionnaires were administered, retrieved and analyzed using Mean and Standard deviation while the hypotheses were tested using t-test statistics. It was found out that all the 22 skills identified in snail processing and marketing were required by the students. It was also found out from the hypotheses tested that, there is no significance difference in the mean responses of lecturers and extension agents in the twenty two (22-skills items). The study therefore, recommended that the twenty two (22) identified skills required by NCE graduates in processing of snails be packaged and used to improve on the curriculum of animal production and processing in schools offering agriculture in South Eastern Nigeria for self employment on graduation.

Snails are invertebrates with soft bodies that are covered with hard calcareous shells. The soft part of the snail is attached permanently to the collumella of the shell by a large retractor muscle. They belong to the phylum molusca which is the second largest of the animal kingdom. The breeds of snails according to Amusan and Omidiyi (1998) include Achachatina Maginata, Achachatina Maritime, Achatina Achatina, Achantina Sylvatica/Fulicia and Lumicolina specie. These are very well known especially in the rain forest zones of Western, Southern and Eastern Nigeria.

Snail is eaten throughout the world and many countries have large internal markets and a great deal of them exploit this products to those that do not produce snails for their own domestic markets (Bonnet, 1990). Snail meat is tasty, tender and nutritious. Its tenderness and fine texture makes it the most suitable meat for all ages (Akinlade, 1997). It is high in Protein, Iron, Vitamin and low in cholesterol and contain almost all amino acids. Skin creams derived from Helix aspersa snails are sold for use on wrinkles, scars, dry skin, and acne. A research study suggested that secretions produced under stress by Helix aspersa might facilitate regeneration of wounded tissues. Chunwuko, (2003) stated that consumption of snail by nursing mothers make the baby stronger and healthier with stronger bones and teeth due to its high calcium and phosphorus content. Continuing the author noted that snail manure is very rich in Nitrogen, Phosphorus and Potassium for vegetable gardening. Snail meat is easily digested and very good for stomach ache, the high iron content of snail meat is

considered important in the treatment of anaemia and as a means of combating ulcer and asthma. (Http;www.efarmspro.com/snail farming .php;retrieve;8/6/2016).

Anene (2006) emphasized that when the citizens of a country are trained in the field that enable them to acquire specific skills, the individuals are likely to be self-reliant as they make use of the learnt skills to establish themselves, and the country also stands better chance for development. Self-employment according to Akubu (2002) is described as working for oneself rather than others. It carries the pride of being one's own master and the singular ownership of the fruits of one's enterprising initiatives. The NCE graduates of agriculture require skills for them to be self employed and function effectively in the society in which they belong. The acquisition of these skills will enhance employment to agriculture education graduates and increase snail supply to many parts of the country, so as to provide protein rich diets, boost the economy, reduce much dependence on government job and occupy the youth who would have been roaming the streets, constituting nuisance. Given that snail is very important meat with all the benefits attached, there is need to improve its edible quality through processing. Processing according to Pearson (2007) involves making food, materials or goods ready to be used or sold for example through preservation or improving them in some way. Therefore, processing becomes important aspect of snail production that must be taught adequately to students of agriculture education in order to empower them with skills in processing enterprises for self or paid employment on graduation. Most graduates of agriculture in South Eastern Colleges of Education refuse to take to snail production and processing on graduation but instead they prefer going to cities in search of non-existent white collars jobs. Consequently they join the already high population of unemployed youths/graduates that roam the streets seeking for survival.

Statement of the problem

The curriculum of Colleges of Education does not have adequate content area on snail farming especially snail farming is considered a semester course with a unit load of one hour per week (NCCE, 2008). It is even made optionally compulsory in that students are expected to either offer snail, bee or cane rat keeping on the alternative. Therefore those courses of agriculture education may not be taken seriously by students, even the few that might have interest may not acquire enough skill in snail processing while in training because there was not enough time to engage in the practical aspect that would have aided them to be self employed on graduation. In view of the foregoing therefore the researcher deemed it necessary to find out the entry level skills require by NCE Agriculture education graduate in process and marketing of snail in snail farming to gainfully employed in graduation.

The purpose of this study therefore, was to identify the entry level skills required by NCE graduates of agriculture in:

1. Processing of snail
2. Marketing processed snail products.

Hypothesis

HO_1: There will be no significant differences between the mean responses of Agricultural education lecturers and extension agents on harvesting and processing of snail.

HO_2: There will be no significant differences between the mean responses of Agricultural education lecturers and extension agents on marketing of snail.

Methodology

Two research questions were developed to guide the study, while two hypothesis were formulated and tested at P<0.05 level of significance. The study adopted survey research design which in the opinion of Owens (2002) is that in which the same information is gathered from an unbiased representative group of interest. It adopted survey research design for it elicited information in form of opinions from lecturers and agricultural extension agents on entry level skills required by NCE graduates of agricultural education for self employment in snail farming enterprises in South Eastern Zone of Nigeria. The study was carried out in South Eastern states Colleges of Education of Nigeria, made up of Abia, Anambra, Ebonyi, Enugu and Imo State. The population of the study is 314 made up of 78 lecturers and 236 extension agents. The study used the entire population, therefore there was no sampling. The instrument used for data collection was structured questionnaire, the skills items had a 4 point response scale of Highly Required, Averagely Required, Slightly Required and Not Required with a corresponding value of 4,3,2, and 1. The instrument was validated by five experts from the departments of Vocational Teacher Education and Animal Science in Faculty of Agriculture, University of Nigeria Nsukka. Their suggestions were used to improve on the final draft of the instrument/questionnaire. Cronbach alpha reliability coefficient was used to determine the internal consistency of reliability of the instrument; Weighted mean and standard deviation were used to answer the research questions while t-test statistics was used to test the hypotheses at P<0.05 level of significance and at 312 degree of freedom. The values attached to the response option of the questionnaire were:

Highly Required (HR) =4
Averagely Required (AR) =3
Slightly Required (SR) =2
Not Required (NR) =1

The arithmetic mean for the values was computed as 4+3+2+1=10 =2.50

Using 0.05 on interval scale, the upper limit of the mean was 2.50 + 2.55. Any item with a weighted mean of 2.55 or above was regarded as required, while any item with a mean score below 2.55 was regarded as not required. Any item with a standard deviation of between 0.00 and 1.96 indicated that the respondents were not far from the mean and opinion of one another. The hypotheses of no significant was upheld for any item whose t-calculated value was less than the t-tabulated value at P<0.05 level of significance and at 312 degree of freedom; while the hypotheses of no significance difference was greater than the t-table value at P< 0.05 level of significance and at 312 degree of freedom.

Research Question 1.

What are the entry level skills required by NCE graduates of agricultural education in processing of snail in snail farming production.

Null Hypothesis I (Ho)

There is no significant difference in the mean responses of the lecturers and extension agents on entry level skills required by NCE graduates of agricultural education in harvesting and processing of snail farming enterprise in Colleges of Education in South Eastern Nigeria. The standard deviation ranged from 0.25 to 0.86 indicating that the respondents were not very far from the mean and from one another in their response.

Table: Mean ratings and t-test Analysis of the Responses of the lecturers and extension agents on the skills required by NCE graduates of agricultural education on harvesting and processing of snails for snail farming enterprises in Colleges of Education in South Eastern Nigeria.

S/N	Item statement	X	SD	t-cal	t-Tab	RQ	Ho
1	Harvest snail as soon as it reaches maturity when the lip edge of the snail becomes hard.	3.06	0.67	1.86	1.96	Rq	Ns
2	Transfer to purging cages for seven days.	3.42	0.83	1.89	1.96	Rq	Ns
3	Break snail shells with hard objects.	3.55	0.75	1.40	1.96	Rq	Ns
4	Separate the snail from the shell.	3.55	0.82	1.97	1.96	Rq	Ns
5	Boil enough quantity of water.	3.46	0.86	-1.06	1.96	Rq	Ns
6	Transfer into bucket with lid.	3.24	0.62	-1.87	1.96	Rq	Ns
7.	Open the bucket to pour off the resultant dirty water.	3.84	0.36	1.03	1.96	Rq	Ns
8	Remove the stringy slimy secretion with Garri, alum fermented cassava or lime.	3.84	0.36	1.06	1.96	Rq	Ns
9	Wash snails in 2-3 changes of water.	3.45	0.06	-1.49	1.96	Rq	Ns
10	Package for market.	3.06	0.67	1.60	1.96	Rq	Ns

X= Mean
SD= standard deviation
RQ= Research Question
Ho= Null Hypothesis
Rq= Required
Ns= Not Required

Data in table I shows that the 10 skill items had their mean ranged from 3.06 to 3.84. This indicated that their mean were above the cut off point of 2.55. The observation implies that all the skill items could be used for harvesting and processing of snail in snail farming enterprise. The standard deviation ranged from 0.36 to 0.86 indicating that respondents were not too far from the mean and close to another in their response.

The hypothesis tested in Table I also revealed further that the 10 skill items had their calculated t-value ranged from -1.87 to 1.03 which were less than 1.96 at 0.05 level of significance and 312 degree of freedom. This indicates that there is no significant difference in the mean ratings of respondents on the 10 skill items required by NCE graduates of agricultural Education for snail processing in snail farming enterprise. With this result, the hypothesis of no significant difference was upheld for the 10 items.

Research question 2.

What are skills required by NCE graduates of agricultural education in South Eastern Nigeria for marketing of snail in snail farming enterprise?

Hypothesis 2.

There is no significant difference in the mean ratings of the responses of agricultural education and extension agents on skills required by NCE graduates in marketing of snail.

The data for answering research question 2 and testing hypothesis 2 were presented in Table two (2).

Mean Ratings and t-test Analysis of the Responses of lecturers and the extension agents on the entry level skills required by NCE graduates of agricultural education in snail marketing for snail farming enterprises in Colleges of Education in South Eastern Nigeria.

S/N	Item Statement	X	SD	t-cal	t-tab	RQ	Ho
1	Pack live snails into net box to sell.	3.49	0.62	1.81	1.96	Rq	Ns
2	Grade snails in strings in groups.	3.14	0.46	1.52	1.96	Rq	Ns
3	Hanging big snails in strings in group.	3.25	0.66	1.05	1.96	Rq	Ns
4	Sell small and big sizes in basket.	2.78	0.85	1.46	1.96	Rq	Ns
5	Prepare and sell snails fresh frozen, bottled or canned.	3.40	0.59	1.22	1.96	Rq	Ns
6	Package product according o grades in an acceptable manner.	3.65	0.47	1.75	1.96	Rq	Ns
7	Record the number of snails per pack.	3.55	0.50	1.37	1.96	Rq	Ns
8	Fix price for the snails based on production price.	3.60	0.49	1.28	1.96	Rq	Ns
9	Advertise the snails in hotels and restaurants.	3.76	0.43	1.27	1.96	Rq	Ns
10	Notify customers of the arrival of snails.	3.62	0.55	1.85	1.96	Rq	Ns
11	Keep the record of snails sold as against the number not sold.	3.43	0.61	1.65	1.96	Rq	Ns

Note: X= Mean
SD= Standard Deviation
RQ= Research Question
Ho= Null Hypothesis
Rq= Required
Ns= Not significance

Data in Table 2 revealed that the 11 skill items had their means ranged from 3.14 to 3.78. This indicated that their means were all above the cut-off point of 2.55. These mean value showed that all eleven items were skills required by NCE graduates of Agricultural education for marketing processed snail products. The standard deviation ranged 0.46 to 0.85 indicating that the respondents were not very far from the mean and from one another in their responses.

The hypothesis tested in Table 2 revealed that the 11 skill items had their calculated t-values ranged from -1.27 to 1.85 which were less than t-table value of 1.96 to 0.05 level of significance and 312 degree of freedom. This indicated that there is no significant difference in the mean ratings of the response of the two groups of respondents on the skills required by NCE graduates of Agricultural education for marketing processed snail products. With this result, the null hypothesis of o significant difference was upheld for the eleven skill items.

Discussion of Result.

The result of the study reveals that the Agricultural education lecturers and extension agents agreed that all the twenty two (22) skills are required by NCE graduates of agricultural education for processing and marketing of snails for self or paid employment in snail enterprise on graduation. Processing of a product means the alternation of the particular product to improve quality towards profit making for a livelihood (Enete A.A, Amusa T.A and Eze N.M, 2009).

According to Enwere (1998), farm produce processing is an important enterprises involving various processing steps. NCE graduates require skills to be able to handle these skills for improved interest in

snail processing enterprise on graduation. The findings on harvesting and processing are in agreement with the opinions of Begg (2003) who stated that snails should be harvested as soon as they reach maturity, when the lip edge becomes hard,, and will not grow bigger and should be transferred to purging cages for seven days to rid their digestive systems of any soil or grit. The findings of this study on processing of snail are in line with the findings of Chinwuko (2003), who enumerated important stages in snail processing for consumption as follows:

- Removal of snail flesh which involves breaking snails shell into pieces with strong object, separation of edible from non-edible, removal of stringy slimy secretion which some people use garri, alum, fermented cassava and lime, washing in 3-4 changes of water.

The above findings further help to evaluate the questions raised and answered by the study. It also shows that the responses of the two professionals did not significantly influence their perception on the skills identified in the study.

Conclusion

People would normally engage in occupations in which they have the skills and training, if the graduates of agricultural education should be gainfully self-employed, they should be properly introduced to practical skills required in snail enterprises especially in processing and marketing of snail products. Therefore, the application of the findings of this study will aid the graduates of agricultural education to be self employed in snail farming in the absence of government jobs.

Recommendation

The study indentified twenty two (22) skills required by students for harvesting and processing of snail product of processed snail products. The government should develop and package the identified skills into training modules as a programme of action in skill acquisition centres to help develop youths who would be equipped with appropriate skills and competences needed for self-empowerment in snail farming enterprise. Moreover, the curriculum planners in collaboration with government officials in National Commission on Colleges of Education (NCCE) should re-design curriculum to spread snail study through the three semesters of colleges of education, as snail farming is practical oriented and increase the periods in a week.

References

Akibu, A.I (2002): Entrepreneurial competencies and self-employment in Vocational Education by the year 2010, Ed. Technical Education Research and Development. Umunze: centre for Research and Development Publisher.

Akinlade, A. (1997): *Rearing Snail, why not? For both small scale and commercial farmer*. Ibadan: Love Most Printer

Amusan, J.A & Omidyi, M.O (1998): *Edible land scales, A technical guide to snail farming in the tropics.* Ibadan: Verity Prints Ltd.

Anene, G.U (2006): Vocational Education as a tool for self-reliance. Federal College of Education (Technical). Umunze. Ed. Technical Education Research and Development Publishers Umunze.

Begg. S (1992): *Farming Edible Snails, lessons from Italy* printed by Union offset printing Canberra.

Bonnet, J.C (1990): Escargot Biotogic Edevage. The institute National Dela-Recherche Agronomique Paris, France.

Chunwuko, B.A (2003): *Tropical Approach to snail farming on land production processes, snail diseases, treatment and management.* Onitsha Kingdom: Sayce Publication Ltd.

Enwere, N.J (1998): Food of Plant origin, Nsukka: Afro-Orbis Publications Ltd. (Http;www.efarmspro .com/snail farming. php: retrieved: 8/6/2016)

The National Commission for Colleges of Education (NCCE) (2012). National Minimum Standard Kaduna. NCCE.