Entrepreneurial Competencies in Goat Production for Enhancing the Income of Teachers of Agriculture in Secondary Schools in Enugu State, Nigeria

by

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Abstract

This study focused on identification of entrepreneurial competency in goat production for enhancing the income of teachers of agriculture in secondary schools in Enugu State, Nigeria. Survey research design was adopted for the study. The study was carried out in Enugu State. The population of the study was 3,520 made up of 442 teachers of agriculture, 3,040 goat farmers and 38 agricultural extension agents. The sample for the study was 386 respondents. A random sampling technique was used for the study. A sixty-seven structured competency item questionnaire was developed from the literature and goat production industries and used for data collection. Three experts validated the instrument. Cronbach alpha reliability method was involved in determining the internal consistency of the instrument. A reliability coefficient of 0.88 was obtained. The data collected were analyzed using mean and standard deviation to answer the research questions and t-test statistics for testing the null hypotheses. The findings of the study revealed that 11 competency items were required in planning for goat production enterprise, 17 in providing housing, 29 in rearing weaned goat to market weight and 10 in marketing of goat. The result of the null hypotheses tested showed that there was no significant difference in the 78 competency items, while there was a significant difference in 24 other competency items required in goat production enterprise in Enugu State. It was recommended that the competencies identified in this study should be used by skill acquisition centres for training of teachers of agriculture and others who may need it among others.

Keywords: teachers of agriculture, income, entrepreneurial, competency,

Introduction

A teacher occupies an important position in transferring knowledge and skills to students. Unachukwu (1990) defined a teacher as a person who attempts to help someone acquire or change some knowledge, skills, attitude, idea or appreciation. Obanewa (1994) stated that a teacher is someone who has undergone the necessary and recommendation training in teacher preparatory programmes and is charged with the full responsibility of managing the classroom in such away as to enhance the learning behavior of the students. In this study, a teacher of agriculture is a person who is trained in pedagogy and technical areas of agriculture and is charged with the responsibility of imparting acquired knowledge, skills and attitude to students in secondary schools. A teacher of agriculture, according Olaitan and Mama (2001), imparts knowledge and skills to students in various areas of agriculture, stimulates student's interest to

participate in agricultural activities in the school, encourages students to promote growth and development of agriculture in schools and performs other functions.

In Enugu State, teachers of agriculture perform some of the above functions and are paid monthly salary by the government as income for performing their responsibilities. These teacher engage in other petty businesses such as selling of recharge cards, provisions, restaurants and okada riding to enhance their income which in most case contradict with their professional responsibilities. This was confirmed by a pilot study carried out by the researcher where it was revealed that teachers of agriculture in Enugu State of Nigeria feel that the income received for the teaching and services they render is very low when compared with their responsibilities and needs. Bala (1994) clarified that teachers of agriculture in secondary schools do not receive science allowance, laboratory maintenance fees, payment of leave grants, experience delayed promotion and above all, function with inadequate facilities for theoretical and practical activities in the subject. The author stated that this situation has led to agitation by teachers of agriculture for an enhanced income.

Income is defined by Yerkes (1994) as the amount of money or its equivalent received during a period of time in exchange for labour or service from the sale of goods or property. Anyamouocha (2001) explained that income is the earning of an individual (in monetary term) for taking part in the production of goods over a given period of time. In this study, income is the amount of money received monthly by the teacher of agriculture as a payment for teaching and other services rendered to the students and the school during the month. The income of the teachers of agriculture in Enugu State could be enhanced through goat production enterprise.

Goat is a ruminant animal. Akinsanmi in Friday (2004) described goat as one of the livestock animals, scientifically known as Capra aegragus species, belonging to a family of *B*ovidae and *genus capra.* The authors said that goat as a ruminant animal is characterized by enlarged four stomachs rumen, reticulum, omasum and abomasums, which endow them with the ability to utilize forage and non-protein nitrogenous substances to produce meat, milk, skin and hair. In Nigeria, goat is very common in the southeastern states especially Enugu where it constitutes a good delicacy (Isi ewu). French in Friday (2004) observed that West African dwarf goat is mostly common and useful in Nigeria because of its resistance to trypanasomiasis and prolificacy. Njoku (1994) stated that goat is owned and reared by farmers in different parts of Nigeria for it does not have any religious, social or cultural discrimination like pig. This could be one of the reasons why goat meat has market in Enugu State to the extent that a substantial gap exists between the quantity demanded and quantity supplied to the market by goat farmers. The wide acceptance of goat meat in the country implies that teachers of agriculture cannot loss in goat production no matter the number of goats they produce. Goats could be exported to other states on saturation of its market in Enugu State. For teachers of agriculture to be successful in goat production, they should be entrepreneurially oriented.

Entrepreneurial, in the submission of Meredith, Nelson and Neck (1990) means combining personal characteristics, financial means and resources within ones environment to organize a business for profits. The personal characteristics in this situation refer to the competence demonstrated by individuals in a business.

Competency, as explained by Olaitan and Ali (1997) is the knowledge, skills, attitude and judgment which one requires to perform successful at a specific level in any given task. With reference to this study, competencies are the knowledge, skills and attitude in goat production which teachers of agriculture must possess to enable them enter into a successful business or enterprise in goat husbandry. The teachers of agriculture need entrepreneurial competencies in

goat production due to the fact that they were not taught step-by-step (skills) of goat production while they were training in schools. Besides, many of the teachers have been teaching goat production to their students theoretically using text books for a long time now without any opportunity to demonstrate or practice goat production either in school or at home. Therefore, it is necessary to identify the entrepreneurial competencies in goat production for enhancing the income of teachers of agriculture in secondary schools in Enugu State, Nigeria. The major purpose of this study was to identify entrepreneurial competencies required by teachers of agriculture in goat production for enhancing income in Enugu State. Specifically, the study sought to identify competencies in:

1. planning for goat production enterprise,
2. providing housing for goat,
3. rearing weaned goat to market weight and
4. marketing of goat.

Research Questions

1. What are the competencies required for effective planning for goat production enterprise?
2. What are the competencies required in providing housing for goat?
3. What are the competencies required in rearing weaned goat to market weight?
4. What are the competencies required in marketing of goat?

Hypotheses tested

There is no significant difference in the mean ratings of the responses of goat farmers and agricultural extension agents on the competencies required in (1) planning for goat production enterprise; (2) providing housing for goat; (3) rearing weaned goat to market weight; and (4) marketing of goat.

Methodology

Three research questions guided the study. The study adopted descriptive survey research design and functions of industry design. In the opinion of Nworgu (1991), a survey research design is one which a group of people or items is studied by collecting and analyzing data from only a few people or items considered to be representative of the entire group. Descriptive survey research design was suitable for this study, since the study sought information from goat farmers and agricultural extension agents on the entrepreneurial competencies in goat production.

Area of the study was Enugu State which comprised three agriculture zones: Awgu, Enugu and Nsukka (Enugu State Agricultural Development Project – ENADEP, 2009). Enugu State is naturally endowed with good ecological and environmental condition favourable for goat production, for example, abundant green shrub, grasses, and conducive weather for livestock rearing. Therefore, the area was considered very suitable for conducting this study.

The population of the respondents was 3,520 made up of 442 teachers of agriculture in secondary schools, 3,040 goat farmers and 38 agricultural extension agents. The sample for the study was 386 respondents. The random sampling technique (balloting) was used to select 44(10%) teachers of agriculture and 304 (10%) goat farmers. The entire population of agricultural extension agents was used because the number was small.

The instrument used for data collection was questionnaire of sixty-seven (67) structured competency items generated from review of literature and information from farmers in goat production industries. The questionnaire had two parts. Part A was to obtain information on personal data while part B was to obtain information on competencies in goat production. Each

competency item had a four-point response scale of Highly Required (HR), Averagely Required (AR), Slightly Required (SR) and Not Required (NR) with corresponding value of 4, 3, 2 and 1 respectively.

The instrument was validated by three experts; two from Agricultural Education Unit of Department of Vocational Teacher Education and one from Department of Animal Science of the University of Nigeria, Nsukka.

A copy of the questionnaire was given to each expert. Each expert was requested to read each item clearly and help to correct any ambiguous or confusing statements. They were also requested to add any missing item or help to arrange the items logically where such error was observed. Their corrections and suggestions were used to improve the instruments for the production of the final copy of the questionnaire.

Thirty copies of the questionnaire were administered to 30 respondents randomly selected in Kogi State. Twenty one of the respondents were goat farmers and nine of them were agricultural extension agents. After three weeks, the same sets of questionnaire were administered to the same respondents. The data collected were analyzed using Cronbach alpha method to determine the reliability and estimate the internal consistency of the instrument. The Cronbach Alpha reliability coefficient of 0.88 was obtained for the instrument.

The researchers personally moved round to administer the instrument to the agricultural extension agents involved in the study. The researchers also hired nine (9) research assistants who administered the instrument to the goat farmers in the three agriculture zones of Enugu State.

The researcher, before the administration of the instrument, gave the hired research assistants an orientation on the distribution and collection of the instrument from the respective respondents while the researcher went round to the research assistants to ensure that the copies of the questionnaire were retrieved from the identified respondents and the research assistants.

The data collected from the respondents were analyzed using weighted mean and standard deviation to answer research questions, while t-test was used to test the null hypothesis of no significant difference at probability of 0.05 level of significance and 340 degrees of freedom (df). The value attached to the response options of the questionnaire were as follows:

Requirement Level	**Numerical Values**
Highly required	4
Averagely required	3
Slightly required	2
Not required	1

The mean for the value: $\frac{4 + 3 + 2 + 1}{4}$

$$10/4 = 2.50$$

Any item with a mean rating of 2.50 or above was considered as required, while any item with a mean below 2.50 was considered as not required. The null hypothesis of no significant difference was accepted for any item whose t-calculated value was less than the t-table value at P

$\leq$ 0.05 level of significance and 384 degrees of freedom, while the null hypothesis of no significant difference was rejected for any item whose t-calculated value was greater than the table value of P $\leq$ 0.05 level of significance and at 383 degrees of freedom.

Results

The results of the study are presented in the tables below.

Table 1: Mean Ratings and t-test analysis of the Responses of Goat Farmers and Agricultural Extension Agents on the Competencies Required for Effective Planning for Goat Production Enterprise

S/N	Competency items	$\overline{X}_1$	$\overline{X}_2$	$\overline{X}_g$	SD	t-cal	Rmk
1.	Formulate specific objectives for goat production enterprise.	3.94	3.26	3.86	0.35	0.94	*S
2.	Revise the objectives of the enterprise based on changes in demand and supply.	3.08	3.00	3.07	0.49	0.00	*S
3.	Decide on goat management system to adopt on the farm.	4.00	3.74	3.97	0.17	0.20	*S
4.	Survey market to identify species of goat to rear.	3.39	3.16	3.36	0.88	0.14	*NS
5.	Determine appropriate equipment to supply.	3.63	3.53	3.28	0.90	0.26	*NS
6.	Identify sources of labour input and cost estimate.	2.90	3.00	3.47	0.85	0.55	*NS
7.	Budget for the goat production enterprise.	4.00	4.00	4.00	0.00	0.00	*NS
8.	Identify sources of finance for goat production enterprise	4.00	3.76	3.97	0.16	0.18	*S
9.	Decide where to procure other farm inputs into goat production enterprise.	3.32	3.00	3.60	0.49	0.00	*S
10.	Develop goat production schedule of activities for workers.	3.53	3.00	3.47	0.85	0.55	*S
11.	Identify records in goat production to be kept.	3.25	2.53	3.17	0.78	0.79	*S

$\overline{X}_1$= Mean of goat farmers, $\overline{X}_2$= Mean of agricultural extension agents, $\overline{X}_g$ = grand mean, SD=grand standard deviation, t-table =1.96, N = number of respondents (386), P $\leq$ 0.05, df = degree of freedom (383), S = significant, NS = not significant, * = required and ** = not required.

Table 1 revealed that 11 competency items in planning had their mean values ranged from 3.07 to 4.00. This showed that the mean value of each of the items was above the cut-off point of 2.50, indicating that all the 11 competency items were required by teachers of agriculture for effective planning in goat production enterprise. The table also showed that the standard deviation (SD) of the items ranged from 0.00 to 0.90. This indicated that the

respondents were not very far from the mean and one another in their responses. The table also showed that four (4) out of eleven (11) competency items had their calculated t-values ranged from -0.83 to 1.05 which were less than t-table value of $\pm$ 1.96 (two tailed test) at P $\leq$ 0.05 level of significance and at 340 degrees of freedom (df). This indicated that there was no significant difference in the mean ratings of the responses of the two groups of respondents (goat farmers and agricultural extension agents) on the four competency items required by teachers of agriculture for effective planning in goat production enterprise. Therefore, the null hypothesis of no significant difference in the mean ratings of the responses of goat farmers and agricultural extension agents on the four items was upheld.

The table revealed further that seven out of the eleven competency items had their calculated t-values ranged from 2.67 to 8.61 which were greater than t-table value of $\pm$ 1.96 (two tailed test) at P $\leq$ 0.05 level of significance and at 383 degrees of freedom (df). This showed that there was a significant difference in the mean ratings of the responses of the two groups of respondents on the seven competency items required by teachers of agriculture for effective planning for goat production enterprise. Based on this result, the null hypothesis of no significant difference in the mean ratings of the responses of the two groups of respondents on the seven competency items required for effective planning in goat production enterprise was rejected.

Table 2: Mean Ratings and t-test analysis of the Responses of Goat Farmers and Agricultural Extension Agents on the Competencies Required in Providing Housing for Goat

S/N	Competency items	$\bar{X}_1$	$\bar{X}_2$	$\bar{X}_g$	SD	t-cal	Rmk
1.	Revisit your purpose of the goat production enterprise.	2.83	3.00	3.85	0.36	-7.73	*S
2.	Decide on the type of housing management to provide for raising goat.	3.83	3.58	3.80	0.40	2.98	*S
3.	Select a suitable location for goat house.	3.83	4.00	3.85	0.36	8.18	*S
4.	Select local materials for building the goat house.	3.48	3.42	3.47	0.75	0.68	*S
5.	Mark out the portion to use based on standard specifications e.g. 1.5 square meters per doe.	3.39	3.00	3.31	0.46	12.50	*S
6.	Construct the wall with brick, mud or wood.	3.31	3.39	3.32	0.47	-0.93	*NS
7.	Make the height of the wall up to 1 meter for adequate ventilation.	3.35	3.61	3.38	0.78	-2.77	*S
8.	Support the roof with concrete pillars.	3.31	3.21	3.30	0.52	0.71	*NS
9.	Roof the house with asbestos sheet						

	or corrugated iron sheet or thatched to provide shelter for the goat.	3.52	3.21	2.60	0.81	-4.66	*S
10.	Make the earthen floor of the pen to slope gently from the back to the front into a gutter of about 8 cm x 8 cm to drain water or urine.	2.87	3.21	2.91	0.90	-2.27	*S
11.	Construct the gutter to slope from one end of the goat house to the outside to facilitate cleaning of the floor.	3.13	3.21	3.14	0.87	-0.53	*NS
12.	Cover the earthen floor with high absorbent materials like saw dust, straw or wood shavings.	4.00	2.95	3.88	0.54	5.25	*S
13.	Put a strong gate at the entrance into the pen.	3.00	2.47	2.94	0.60	5.96	*S
14.	Provide pegs on the floor of the goat house for tethering goats.	2.61	2.47	2.60	1.18	1.27	*NS
15.	Fence the goat farm with woven wires, barbed wires and link chain up to 1.3 meters high to make it goat proof.	3.32	3.00	3.28	0.45	11.43	*S
16.	Provide manger or hay rack in the goat house for feeding the goats.	3.83	3.00	3.58	0.78	6.92	*S
17.	Provide water trough for the goat.	4.00	3.61	3.95	0.20	4.70	*S

$\overline{X}_1$= Mean of goat farmers, $\overline{X}_2$ = Mean of agricultural extension agents, $\overline{X}_g$ = grand mean, SD=grand standard deviation, t-table =1.96, N = number of respondents (386), $P \leq 0.05$, df = degree of freedom (383), S = significant, NS = not significant, * = required and ** = not required.

Table 2 revealed that 13 competency items in housing had their mean values ranged from 2.60 to 3.95. This showed that the mean value of each item was above the cut-off point of 2.50, indicating that all the 17 competency items were required by teachers of agriculture in providing housing for goat. The table also showed that the standard deviation of the items ranged from 0.20 to 1.18. This indicated that the respondents were not very far from the mean and one another in their responses. The table also showed that four out of seventeen competency items had their calculated t-values range from -0.93 to 1.27 which were less than t-table value of $\pm$ 1.96 (two tailed test) at $P \leq 0.05$ level of significance and at 383 degrees of freedom (df). This indicated that there was no significant difference in the mean ratings of the responses of the two groups of respondents (goat farmers and agricultural extension agents) on the four competency items required in providing housing for goat. Therefore, the null hypothesis of no significant difference in the mean ratings of the responses of goat farmers and agricultural extension agents on the four competency items was upheld.

The table revealed further that thirteen out of the seventeen competency items had their calculated t-values ranged from -8 to 12.50 which were greater than t-table value of $\pm$ 1.96 (two tailed test) at $P \leq 0.05$ level of significance and at 383 degrees of freedom (df). This showed that there was a significant difference in the mean ratings of the two groups of respondents on the thirteen competency items required in providing goat was rejected.

Table 3: Mean Ratings and t-test analysis of the Responses of Goat Farmers and Agricultural Extension Agents on the Competencies Required in Rearing Weaned Goat to Market weight

	Competency items	$\overline{X}_1$	$\overline{X}_2$	$\overline{X}_g$	SD	t-cal	Rmk
1.	Select disease resistant breeds of goat for rearing in an environment.	3.81	3.21	3.74	0.50	4.29	*S
2.	Quarantine purchased weaned goats before mixing them with others.	3.65	3.00	3.58	0.55	5.33	*S
3.	Vaccinate your goat against disease attack.	3.81	2.95	3.71	0.54	4.42	*S
4.	Provide a space of 1.8 – 2.3 m^2 for doe kids, 1.4 m^2 for doe etc to avoid over-crowding.	3.64	3.37	3.61	0.49	3.21	*NS
5.	Fumigate goat pen against pests and parasites before stocking.	3.35	3.37	3.35	0.49	-0.24	*NS
6.	Provide adequate ventilation for goat to avoid diseases like pneumonia.	3.08	3.37	2.84	1.29	-1.26	*NS
7.	Castrate bucks that are not meant for breeding at 8 weeks old.	3.69	3.32	3.13	1.31	4.51	*S
8.	Put together kids of the same age bracket to make a new generation on the farm.	3.69	3.00	3.65	0.48	5.19	*S
9.	Provide water for young goat at all times.	4.00	3.00	3.61	0.56	7.69	*S
10.	Give goat salt licks and vitamins mix as supplements.	3.07	3.34	3.88	0.42	-3.25	*S
11.	Feed goat with concentrate as supplement.	3.35	2.66	3.10	0.53	8.41	*S
12.	Wash and dry the feed trough every day.	2.78	3.26	3.27	0.53	-2.18	*S
13.	Place the feed trough at different positions in goat pen each day to avoid accumulation of diseases pathogens, pests and parasites	3.90	2.66	3.86	0.46	15.50	*S

14.	Feed goat with balanced diet to avoid nutritional disease.	3.17	3.66	3.23	0.42	-6.05	*S
15.	Feed goats with grasses of the ground floor to avoid contamination.	2.69	3.00	2.73	0.94	-2.21	*S
16.	Change goat bedding manure regularly.	2.70	3.00	2.74	0.90	-5.26	*S
17.	Pack the goat bedding and the faeces outside the goat pen.	3.35	3.26	3.21	0.41	1.15	*NS
18.	Take goat to pasture for grazing regularly in semi-intensive system.	3.48	3.74	3.51	0.75	-3.02	*S
19.	Apply rotational grazing to avoid accumulation of disease pathogens, pests and parasites.	3.35	3.26	3.34	0.47	13.97	*S
20.	Prevent goat in a range system from grazing around water bodies.	4.00	3.00	3.81	0.55	1.00	*NS
21.	Deworm goat against endoparasites.	3.97	2.41	3.79	0.68	7.38	*S
22.	Dip goat in chemical water against ectoparasites.	3.97	2.68	3.82	0.54	8.54	*S
23.	Provide foot match at the entrance of the goat pen.	3.63	2.42	3.52	0.69	5.71	*S
24.	Instruct visitors to use the foot match before entering the pen.	3.04	2.68	3.00	0.87	1.76	*NS
25.	Prevent pests around the goat pen.	3.35	3.26	3.34	0.49	0.97	*NS
26.	Replace the bedding material once it has been infested.	3.35	3.74	3.66	0.47	-4.81	*S
27.	Weigh goat regularly to determine weight gain and maturity.	3.60	3.21	3.73	0.51	2.61	*S
28.	Keep health records of goat in the flock e.g. vaccination.	3.60	3.34	3.57	0.78	2.86	*S
29.	Cull mature goat from the herd for sale.	3.60	2.66	3.49	0.83	10.33	*S

$\overline{X}_1$= Mean of goat farmers, $\overline{X}_2$ = Mean of agricultural extension agents, $\overline{X}_g$ = grand mean, SD = grand standard deviation, t-table =1.96, N = number of respondents (386), P $\leq$ 0.05, df = degree of freedom (383), S = significant, NS = not significant, * = required and ** = not required.

Table 3 revealed that the 29 competency items had their mean values ranged from 2.73 to 3.88. This showed that the mean value of each item was above the cut-off point of 2.50, indicating that all the 29 competency items were required by teachers of agriculture in rearing weaned goat to market weight. The table also showed that the standard deviation of the items ranged from 0.41 to 1.31. This indicated that the respondents were not very far from the mean and one another in their responses. The table also showed that six out of

twenty-nine competency items had their calculated t-value ranged from -1.26 to 1.76 which were less than t-table value of ± 1.96 (two tailed test) at P ≤ 0.05 level of significance and at 340 degrees of freedom. This indicated that there was no significant difference in the mean ratings of the responses of the two groups of respondents (goat farmers and agricultural extension agents) on the six competency items required in rearing weaned goat to market weight. Therefore, the null hypothesis of no significant difference in the mean ratings of the responses of goat farmers and agricultural extension agents on the six competency items was upheld.

The table revealed further that twenty-three out of the twenty-nine competency items had their calculated t-values ranged from -6.05 to 15.50 which were greater than t-table value of ± 1.96 (two tailed test) of P ≤ 0.05 level of significance and at 383 degrees of freedom (df). This showed that there was a significant difference in the mean ratings of the responses of the two groups of respondents on the items required in rearing weaned goat to market weight. Based on this result, the null hypothesis of no significant difference in the mean ratings of the responses of the two groups of respondents on the twenty-three competency items required in rearing weaned goat to market weight was rejected.

Table 4: Mean Ratings and t-test analysis of the Responses of Goat Farmers and Agricultural Extension Agents on the Competencies Required in Marketing of Goat.

	Competency items	$\bar{X}_1$	$\bar{X}_2$	$\bar{X}_g$	SD	t-cal	Rmk
1.	Survey the market to determine the size and quality of goats buyers pay best prize.	3.35	3.74	3.28	0.51	-5.00	*S
2.	Determine when to supply goat to the market for maximum profit.	3.80	3.47	3.82	0.38	4.71	*S
3.	Cull out kids at four to five months and mature goat at 23 to 28 months of age for market.	3.74	3.00	2.73	0.71	18.50	*S
4.	Grade goats using age, size, weight or quality to determine price for each.	3.13	3.00	3.11	0.32	6.50	*S
5.	Fix prices for different sizes and qualities of goats.	3.44	3.33	3.42	0.83	0.69	*NS
6.	Transport culled out goat to the local market.	3.00	3.26	3.03	0.98	-2.43	*S
7.	Advertise the goat for attracting customers.	3.64	3.00	3.56	0.58	3.20	*S
8.	Invite the customers for inspection of the goat they want to buy.	3.62	2.47	3.48	0.66	13.07	*S
9.	Sell goat at the determined price.	4.00	3.32	3.92	0.39	4.39	*S

10.	Keep financial records for marketing goat.	3.18	3.34	3.23	0.70	-1.82	*NS

$\overline{X}_1$= Mean of goat farmers, $\overline{X}_2$ = Mean of agricultural extension agents, $\overline{X}_g$ = grand mean, SD=grand standard deviation, t-table =1.96, N = number of respondents (386), P $\leq$ 0.05, df = degree of freedom (383), S = significant, NS = not significant, * = required and ** = not required.

Table 4 revealed that all the 10 competency items had their mean values ranged from 2.73 to 3.92. This showed that the mean value of each item was above the cut-off point of 2.50, indicating that all the 10 competency items were required by teachers of agriculture in marketing of goat. The table also showed that the standard deviation of the items ranged from 0.32 to 0.98. This indicated that the respondents were not very far from the mean and one another in their responses. Table 4 revealed that two out of ten competency items had their calculated t-values as -1.82 and 0.69 which were less than t-table value of $\pm$ 1.96 (two tailed test) at P $\leq$ 0.05 level of significance and at 340 degrees of freedom. This indicated that there was no significant difference in the mean ratings of the responses of the two groups of respondents (goat farmers and agricultural extension agents) on the two competency items required in marketing of goat. Therefore, the null hypothesis of no significant difference in the mean ratings of the responses of goat farmers and agricultural extension agents on the two competency items was upheld.

The table also revealed further that eight out of ten competency items had their calculated t-values ranged from -5.00 to 18.50 which were greater than t-table value of $\pm$ 1.96 (two tailed test) at P $\leq$ 0.05 level of significance and at 383 degrees of freedom. This showed that there was a significant difference in the mean ratings of the responses of the two groups of respondents on the eight competency items required in marketing of goat. Based on this result, the null hypothesis of no significant difference in the mean ratings of the responses of the two groups of respondents on the eight competency items required in marketing of goat was rejected

Discussion

The result of the study on table 1 revealed that 11 competency items were required in planning for goat production enterprise in Enugu State. The result is in agreement with the views of Olaitan and Mama (2001) who stated that competency items in planning of any farm operation include: formulate specific objective for the farm, revise the objectives periodically, draw up programme plan for the farm among others. Nkoli (2005) listed the abilities in planning a farm to include choose a farm of sufficient size to support the objectives of the farm, fit the capabilities, interest and knowledge of the farmer to the type of farm operations, plan the farm as long a period as possible and so on.

Table 2 revealed that 17 competency items were required in providing housing for goat in Enugu State. The result is in consonance with the view of Akinyosoye (1993) who said that the type of house to provide for goat depends on the type of management system adopted such as intensive semi-intensive and extensive system. Iwena (2008) summarized common features of goat houses to include the following: goat house must provide shade from the sun and protection against rain; it must be well ventilated, walls can be made of

bricks, mud or wood. The roof could be made with metal sheets, asbestos sheets or plant-materials, bedding materials could be straw, wood shavings among others.

The result of the study in table 3 revealed that 29 competency items were required in rearing weaned goat to market in Enugu State. The result is in agreement with the view of Onwuegbuna (1994) who stated that the weaner pool system may be practiced in which case all kids born within a space of one or two weeks are weaned and pooled together to make a given generation on the farm. This system, the author affirmed, required intensive feeding because the younger ones may be weaker and so less able to obtain food where most of the groups are feeding. Nigeria Education Research Development Council (NERDC, 1999) stated that for rapid growth in goats, energy rich foodstuffs such as boiled cassava, cracked maize or guinea corn mixed in appropriate proportion with high protein foodstuffs e.g. groundnut cake, palm kernel cake, cotton seed, meal or distiller's grain should be fed as concentrates to rapid growing goats (kids) once or twice daily.

Table 4 showed that 10 competency items were required in marketing of goat in Enugu State. The result is in consonance with the findings of Pinkerton, Hanwell, Drinkwater and Escobar (1994) who stated that the supply of goats seems to be expanding, mainly in response to increase in demand and to improved potential for producers' profit. The authors further posited that the supply of goat is rather elastic. Adiene (1997) maintained that basic skills in marketing of livestock product include: find buyers or search for market, grading and standardization of products, storage of the products, distribution and transportation of the products. The result was also in agreement with the observation of Miller (2006) who listed three cardinal rules for marketing goats and goat products as: test the market, meet your customers' unique needs and speak in terms your customers can understand.

It was found out that there was no significant difference in the mean ratings of the responses of the two groups of respondents (goat farmers and agricultural extension agents) on 4 competency items in planning for goat production enterprise, 4 competency items in providing housing for goat, 6 competency items in rearing weaned goat to market weight and 2 competency items in marketing of goat. The implication of the above findings was that the professional careers of the respondents did not significantly influence their opinions on the competency items required in goat production enterprise in the study area.

It was also found out that there was a significant difference in the mean ratings of the opinions of the two groups of respondents on 7 competency items in planning for goat production enterprise, 13 competency items in providing housing for goat, 23 competency items in rearing weaned goat to market weight and 8 competency items in marketing of goat. The implication of this finding was that the professional careers of the respondents probably influenced their responses on the competency items where they differ in their opinions.

Conclusion and recommendations.

Based on the findings of the study, only the competency items that met the cut-off point of 2.50 and above were regarded required in this study under each major areas of goat production by teachers of agriculture in secondary schools in Enugu State. These competency items had been favourably compared with comments, ideas and suggestions of experts, and authors in the fields of goat production and found justified.

The outcomes of the study were also closely related with the major purpose of this study. The study made some contributions to knowledge and skills in goat production in Enugu State. The researchers recommended that:

1. The competencies identified in this study should be used by skill acquisition centres for training of teachers of agriculture and others who may need it.
2. Enugu State Government should encourage teachers to use the identified skills to teach students goat production in the school.
3. Young Farmers' Club should use the skills identified in this study for producing goat as a project.

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