Skills Required by Agricultural Education Graduates in Grass Cutter (Thryonomys swinderianus) Farming for Self-Employment in Kaduna State, Nigeria

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ABSTRACT

Whereas the demand for bush meat consumption is high in Kaduna State of Nigeria, the demand can only be sustained by creating self employment by agricultural graduates who have mastered the skills of grass-cutter farming. This is why this study identified skills required by Agricultural Education Graduates in: planning for Grasscutter farming, housing construction for grasscutter farming and breeding Grasscutter in Kaduna state. Three research questions of what are the skills required by Agricultural Education Graduates in planning for Grasscutter farming, housing construction for Grasscutter farming and breeding Grasscutter in Kaduna state were answered by the study while three null hypotheses were formulated and tested at the 0.05 level of significance. The study adopts survey research design. The study was carried out in Kaduna state using a target population of 241 made up of 48 animal science lecturers and 193 agricultural extension agents across the agricultural development zones in Kaduna State. The entire population was purposively used for the study. The instrument of data collection was a 30-items structured questionnaire title "Glasscutter Farming Skills Questionnaire (GFSQ)" developed by the researchers from literature reviewed. The GFSQ was subjected to face and content validity by three validates. The instrument was trial tested on 15 respondents in Plateau State and the result was subjected to reliability analysis using Cronbach Alpha method which yielded a reliability coefficient of 0.91. The GFSQ was used for data collection by the researcher with the help of three research assistants. Data collected for the study was analyzed using mean ratings and standard deviation to answer research questions and t-test statistics to test the null hypotheses at the 0.05 level of significance. The findings of study revealed 10 skills in planning, 10 skills in housing construction and 10 skills in breeding of grasscutter are required respectively for success in grasscutter farming. Based on the findings of this study, it was recommended amongst others that the identified skills in this study should be incorporated into the programme of the skills acquisition centre's in the state so that it could be used for retraining the unemployed agricultural education graduates for self-employment.

Keywords: Grasscutter; Skills; Graduates and Self-Employment

List of Abbreviations: kg: kilogram; cm: centimeter; %: percentage; FGN: Federal Government of Nigeria; NPC: National Population Commission; KADP: Kaduna State Agricultural Development Project; GFSQ: Grasscutter Farming Skills Questionnaire.

INTRODUCTION

Grasscutter is a rodent widely distributed in the African sub-region and exploited in most areas as a source of animal protein [1]. Grasscutter according to Ismail is a non-carnivorous animal; it is essentially a plant eater [2]. It is a source of food and its meat is delicious and is regarded as a delicacy in Nigerian diet, the nutritive value of grasscutter is relatively high. The crude protein content of meat is about 22.7 % compared to 20.7 % for rabbit meat, 19.25 % for chicken meat and 18.2 % for beef.

Grasscutter belongs to the Genus *Thryonomy*, Species: *swinderianus* and *gregorianus*, Order: Rodentia, Family: Thryonomyidae, Class: Mammalia, Phylum: Chordata [3]. Grasscutter is one of the game species in West Africa including Nigeria [4]. The Grasscutter has a thick body when fully grown; the body length varies between 40 cm to 60 cm. Its tail measures between 22 cm to 25 cm and standing height is between 23 cm to 30 cm. The average adult weight is 3.5 kg for female and 4.5-10 kg for adult male [5]. It has a mixture of fur color which may be brown or grey depending on the habitat [4]. The authors state that it is a monogastric, herbivorous, easy to feed and transformer of fiber into protein hence its farming should be encouraged.

Farming, according to Wikipedia, (2016) is the process of keeping animals and crops by people for food and raw materials. Grasscutter Farming in the context of this study is the keeping or rearing of grasscutter for self-employment. Grasscutter farming serves as a source of income and employment business of producing, processing, transporting, storing and servicing grasscutter gives employment to many people. Moreso, one can depend on grasscutter farming for livelihood; it creates job opportunities for both rural and urban dwellers.

According to National Research Council and Agbelusi [1], Grasscutter farming is profitable because of its social acceptability, meat quality, inexpensive feed sources and amenability to captive rearing, good litter size and short generation interval. The meat popularly called "bush meat" is highly acceptable in Nigeria and there is no restriction to its consumption as its consumption does not contradict any cultural or religious belief. The meat of grasscutter fetches higher prices than meats of other domestic animal Martin, and Asibey [1]. Onebunne reported that grasscutter produces white meat, it is high in protein, yet low in fat, and that grasscutter meat is far better from the health point of view as it contains far less fat, no chemical and particularly less cholesterol, than other types of meat, the meat is also medicinal [6]. The demand for grasscutter meat and other white meat in local and international markets has been growing. The latest statistics show that current grasscutter meat production is not enough to meet the increasing demand in Nigeria [6]. To fill the above gap of limited supply of grasscutter, there need to identify skills required by agricultural education graduates in grasscutter farming for self employment in Kaduna state. Acquisition of skills is a strong source of wealth creation that helps to reduce poverty and unemployment [7]. The acquisition of skills by agricultural education university graduates in grasscutter farming will give rise to graduates who are self-reliant in the area of grasscutter farming which reduces unemployment, increases the production

of bush meat to meet the consumption demand in Kaduna state.

Skills according to Osinem are the ability to do something well. It refers to the ability to perform an exactness, practiced ability or proficiency displayed in the performance of a task. Skill according to the author can rightly be a well established habit of doing something and involves the acquisition of performance capabilities [8]. Okorie explained that skill is a well established habit of doing something. In the context of this study, skills are those knowledge, ability, capacity, information and competencies about grasscutter farming which agricultural education graduates need to acquire for self employment in Kaduna state [9].

The teaching of skills carried out by both animal science lecturers and agricultural extension agents are necessary in Agricultural Education. Animal science /production lecturers are responsible for training and imparting skills to the students; also they have an opportunity to develop new research on animal production whereas agricultural extension agents transmit skills to practicing farmers to enhance self-employment. In support of the above, the National Policy on Education stated that the goal of tertiary education is to acquire both physical and intellectual skills which will enable individuals to be self-reliant and useful members of the society [10]. In the context of this study, acquiring skills at tertiary institutions on grasscutter farming makes agricultural education graduates job providers not job seekers.

Agricultural education according to Osinem [11] is a process of imparting knowledge, skills and attitudes in agriculture to the learner at any level. It is a form of vocational training that involves the process of exposing learners to acquire desired knowledge, skills, attitude and aptitude in all processes of agricultural production as well as the techniques for effective teaching of agriculture at any given level [12]. In the context of this study agricultural education is the processes of imparting skills in grasscutter farming to agricultural education graduates to enable them become self- employed.

A graduate is a person who has successfully completed a course of study or training, especially who has been awarded an academic degree [13]. Graduates in this study are individuals who have completed or received training in Agriculture from a specialized institution. For Agricultural Education graduates in Kaduna state to be functional, saleable and self employment in the society after graduation; they need skills in Grasscutter farming.

Self-employment according to Wikipedia is the act of generating one's income directly from customers through working, clients or other organizations as opposed to being an employee of a business person; self employed people generally find their own work rather than being provided with work by an employer, earning income from a trade or business that they operate [3].

Therefore, Agricultural enterprise opportunities abound in our environment; it only requires the acquisition of the right skills and competencies to be able to identify and explore these opportunities. Empowering Agricultural education undergraduates with entrepreneurial skills is very crucial,

especially when it has to do with economic empowerment of the individual for self-reliance [14].

In Nigeria and Kaduna state in particular, unemployment abounds and thousands of graduates are being turned into the labor market and are faced with a lot of challenges and harsh realities which include poverty, conflict and disease. Obunnadike further states that some of these unemployed graduates engaged in other societal unacceptable behaviors such as robbery, stealing, kidnapping, thuggery among others, negatively affecting human resource development [7]. Recently, the National Bureau of Statistics put the unemployment rate in the first quarter of 2013 at 23.9 %. And given the Nigerian youth unemployment situation, skill acquisition remains the viable option to create jobs, reduce unemployment, poverty and empower the youths to develop their business, pursue their dreams and contribute to overall productive capacity and national economic growth and development [15].

The tertiary institutions in Nigeria as in other parts of the world are established with a view to imparting relevant and necessary work skills in prospective undergraduates. Agricultural courses of study in Nigeria tertiary institutions have the potentials for impacting skills. It is however regrettable that most Nigerian graduates, who attended university, lack required agricultural skills which could make them employable or self employed/self reliant after their graduation from school. The National Policy on Education emphasizes the need for functional education and self reliance by stressing the imperativeness of our tertiary institutions to establish or provide forms of education that fulfill this desire, and that is through skills acquisition [10].

In Kaduna state today, about 80% of university graduates are unemployed. The worrisome aspect of this scenario is that this continued increase in the number of agricultural education graduates yearly is far beyond the carrying capacity of the state labor markets [16]. The researchers observed that, Despite the availability of different green forage like Elephant grass, Sugar cane, Northern gamba grass, spear grass, maize, palm fronds (grasscutter feed), and with the high demand of bush meat in the state, cultivating these green forage and opportunities for self-employment that are wasting and underutilized. It is imperative to note that most of these unemployed graduates including agricultural education graduates as observed by the researchers lack the required skills in agricultural vocations like grasscutter farming. That is, Skills in planning, housing, breeding of grasscutter. This apparently triggered the researchers' zeal into identifying skills in grasscutter farming for agricultural education graduates.

PURPOSE OF THE STUDY

The purpose of the study is to identify skills required by agricultural education graduates in Grasscutter farming for self-employment in Kaduna state. Specifically, the study sought to identify Skills required by Agricultural Education Graduates in:

1. Planning for Grasscutter farming in Kaduna state.

2. Housing construction for Grasscutter farming in Kaduna state.

3. Breeding Grasscutter in Kaduna state.

RESEARCH QUESTIONS

1. What are the skills required by agricultural education graduates in planning for Grasscutter farming in Kaduna state?

2. What are the skills required by agricultural education graduates in housing construction for Grasscutter farming in Kaduna State?

3. What are the skills required by agricultural education graduates in breeding Grasscutter in Kaduna State?

RESEARCH HYPOTHESES

The following null hypotheses were formulated to be tested at 0.05 level of significance.There is no significant difference in the mean ratings of animal science lecturers and agricultural extension agents on skills required by agricultural education graduates in:

1. Planning for Grasscutter farming.

2. Housing construction for Grasscutter farming.

3. Breeding of Grasscutter.

METHODOLOGY

Design of the Study

Survey research design was adopted for this study. The design was appropriate for the study because information was obtained from a few groups of individuals who are representative of the entire population and the results were generalized on the entire population of the respondents in Kaduna state where agriculture constitutes the largest occupation of the people with many participating in small scale farming which makes the state suitable for the study. Also, it is a major region of animal husbandry, also there is high demand of bush meat. Major food and cash crops produced in the state include groundnut, guinea corn, millet, ginger, beans, soya beans, cassava, rice, sugar cane and maize which can be used in feeding grasscutter.

Population

The population of the study was 241 which comprised 48 Animal science/production lecturers in the faculty of Agriculture in Kaduna State and 193 Agricultural extension agents of Kaduna Agricultural Development; KADP [17].

Sample and Sampling Techniques

The whole population was purposively involved in the study because the population is not much and was effectively handled by the researchers therefore; all the population constitutes the sample for the study.

Instrument for Data Collection

The instrument used for data collection was a structured item questionnaire titled "Grasscutter Farming Skills Questionnaire"

(GFSQ). The instrument has 10 skills items in planning for grasscutter farming, 10 skills items in housing construction for grasscutter and 10 skills items in breeding of grasscutter. The questionnaire had a four-point rating scale or Highly Required (HR), Required (R), Slightly Required (SR) and Not Required (NR). The skills items were rated as HR=4points, R=3 points, SR=2 points, and NR=1 point respectively.

Validation of the Instrument

Three experts validated the questionnaire two from the Department of Vocational Agriculture and Technology Education in the College of Agricultural and Science Education and One from Department of Animal Production in the College of Animal Science in Federal University of Agriculture, Makurdi.

Reliability of the Instrument

Fifteen (15) copies of GFSQ were administered to animal science lecturers and agricultural extension agents in Plateau state. Cronbach Alpha formula was used to determine the reliability of GFSQ items which gave a reliability index of 0.91 indicating that the instrument is reliable for the study.

Method of Data Collection

Three research assistants who are familiar with the study area were selected and instructed on how to administer to and retrieve the questionnaire from the respondents.

Method of Data Analysis

Mean and standard deviation was used to answer the research questions while t-test was used to test the hypotheses at 0.05 level of significance. The choice of mean to answer research questions is because data collected was on interval scale. Also the use of mean helps for easy computation of t- test. On the

other hand to determine whether the opinion of the respondents (Animal Science Lecturers and Agricultural Extension Agents), as represented by their means, differ significantly or otherwise. Bench mark of 2.50 was established to accept any item with a mean rating of 2.50 and above will be regarded as required, while any item with a mean rating of less than 2.50 was be regarded as not required. The decision rule for rejection or otherwise of hypotheses was based on the p-value and alpha value. A hypothesis of no significant difference was not rejected for any cluster of item whose p-value was grater to or equal than alpha value of 0.05 (P>0.05) while it was rejected for any cluster of item whose p-value was less than alpha value of 0.05 (P<0.05).

RESULTS

The results of the study were obtained from the research questions answered and the hypotheses tested through data collected and analyzed.

Research Question 1

What are the skills required by agricultural education graduates in planning for grasscutter farming in Kaduna State?

Data presented in Table 1 revealed that all the 10 skill items in planning for grasscutter farming had their grand mean values ranged from 2.85 to 3.55, indicating that their mean values were above the cut-off point of 2.50. This showed that all the 10 skills were required by agricultural education graduates in planning for grasscutter farming in Kaduna state. The Table also showed that the grand standard deviation of the items ranged from 0.73 to 0.1.02, indicating that the respondents were not too far from the mean and from the opinion of one another in their responses on skills required by agricultural education graduates in planning of grasscutter farming in Kaduna State.

S/N	Skills in Planning for Grasscutter Farming	1	SD_1	2	SD_2	g	SD_g	Remark
1	Formulate specific objectives for determining the direction of the grasscutter farming enterprise	2.77	0.78	3.04	0.89	2.99	0.88	Required
2	Review the objectives of the enterprise periodically due to changes in demand and supply	2.75	0.88	3.03	0.93	2.98	0.93	Required
3	Draw a time table of activities in grasscutter farming enterprise for effective management	3.04	0.87	3.21	0.93	3.18	0.92	Required
4	Decide on location for sitting the grasscutter farm	2.88	1.04	3.13	1.03	3.08	1.03	Required
5	Identify relevant farm input(s) required for the production	2.94	0.93	3.13	0.76	3.1	0.93	Required
6	Make a budget for the grasscutter farming enterprise to avoid financial hardship	2.92	0.61	3.13	0.76	3.09	0.73	Required
7	Identify sources of funds for establishing of grasscutter farm	3.04	0.97	3.23	0.98	3.19	0.98	Required

8	Provide relevant equipment for use in the enterprise	2.6	1.04	2.91	1	2.85	1.02	Required
9	Identify relevant personnel for relevant tasks	3.6	0.79	3.54	0.88	3.55	0.86	Required
10	Identify marketing channel(s) for the grasscutter farming enterprise	2.96	0.8	3.17	0.84	3.13	0.84	Required
	Cluster Mean and Standard Deviation	2.95	0.87	3.15	0.9	3.11	0.91	

Note: N= number of respondents, 1= mean of animal science lecturers, SD1= standard deviation of animal science lecturers, 2= mean of agricultural extension agents; SD2 = standard deviation of agricultural extension agents, g= grand mean of respondents SDg = grand Standard deviation of respondents.

Research Question 2

What are the skills required by agricultural education graduates in housing construction for grasscutter farming in Kaduna State?

Data presented in Table 2 revealed that all the 10 skill items in housing construction for grasscutter had their grand mean values ranged from 2.98 to 3.36, indicating that their mean values were above the cut-off point of 2.50. This showed that all the 10 skills were required by agricultural education graduates in housing construction for grasscutter farming in Kaduna state. The Table also showed that the grand standard deviation of the items ranged from .74 to .95, indicating that the respondents were not too far from the mean and from the opinion of one another in their responses on skills required by agricultural education graduates in housing construction for grasscutter farming in Kaduna State.

S/N	Skills in housing construction for Grass-cutter Farming	1	SD1	2	SD2	g	SDg	Remark
1	Select suitable site for grasscutter farming	3.29	0.98	3.38	0.94	3.36	0.95	Required
2	Keep grasscutter in a metal cage of LxWxH= 180xo.70x0.40 dimension	3.15	0.92	3.25	0.95	3.23	0.94	Required
3	Build the wall to the height of 1.2 meters with bricks or mud to avoid grasscutter jumping out	3	0.65	3.18	0.79	3.15	0.76	Required
4	Roof the pen with suitable material such as asbestos, corrugated iron zinc or thatch to protect the grasscutter from rain and excessive sun	3.06	0.72	3.01	0.8	3.02	0.78	Required
5	Cover the house/cage with polythene materials during cold period to conserved heat	3.08	0.73	3.06	0.75	3.06	0.74	Required
6	Fence to protect the grasscutter pen from predators and thieves	3.04	0.65	2.99	0.82	3	0.79	Required
7	Provide nest boxes for parturition	3.06	0.69	3.01	0.82	3.02	0.79	Required
8	Construct cage with wood, wire mesh, iron-rods for transparency within the animals	3.13	0.67	3.01	0.85	3.03	0.81	Required
9	Cage/hutch should be placed under a shade for maintaining optimum temperature of the animal	3.02	0.63	3.01	0.81	3.01	0.77	Required
10	Locate the housing close to the residence of breeder for proper supervision	3.02	0.63	2.97	0.84	2.98	0.79	Required

| | Cluster Mean and Standard Deviation | 3.08 | 0.73 | 3.087 | 0.84 | 3.086 | 0.81 |

Note: N= number of respondents, 1= mean of animal science lecturers, SD1= standard deviation of animal science lecturers, 2= mean of agricultural extension agents; SD2 = standard deviation of agricultural extension agents, g= grand mean of respondents SDg = grand Standard deviation of respondents.

Research Question 3

What are the skills required by agricultural education graduates in breeding of grasscutter farming in Kaduna State?

Data presented in Table 3 revealed that all the 10 skill items in breeding of grasscutter had their grand mean values ranged from 2.97 to 3.52, indicating that their mean values were above the cut-off point of 2.50. This showed that all the 10 skills were required by agricultural education graduates in breeding of grasscutter in Kaduna state. The Table also showed that the grand standard deviation of the items ranged from .68 to .81, indicating that the respondents were not too far from the mean and from the opinion of one another in their responses on skills required by agricultural education graduates in breeding of grasscutter.

S/N	Skills in Breeding of Grass-cutter	1	SD_1	2	SD_2	g	SD_g	Remark
1	Identify the breeding season for grasscutter for successful breeding	2.98	0.63	2.97	0.81	2.97	0.78	Required
2	Select appropriate breeding stock for production of superior offspring	3.06	0.66	2.98	0.81	3	0.78	Required
3	Set up breeding pen for grasscutter mating	3	0.68	2.96	0.81	2.97	0.78	Required
4	Sterilize the breeding pens before stocking the grasscutter to destroy pathogens	3.27	0.79	3.58	0.74	3.52	0.76	Required
5	Determine when to put the breeding grasscutter in the breeding pens for high performance	3.08	0.84	3.52	0.65	3.44	0.71	Required
6	Provide enough space for the breeding of grasscutter	3.02	0.78	3.41	0.73	3.33	0.75	Required
7	Provide enough feed and water for the breeding stock	2.94	0.78	3.35	0.72	3.27	0.75	Required
8	Determine the gestation period for grasscutter which is 154 days	3.5	0.65	3.35	0.68	3.38	0.68	Required
9	Remove the breeding stock from the breeding pen after parturition for the next stock	3.56	0.61	3.36	0.74	3.4	0.72	Required
10	Provide comfortable bedding in the breeding pen for effective breeding	2.67	0.78	3.1	0.8	3.01	0.81	Required
	Cluster Mean and Standard Deviation	3.11	0.7	3.3	0.8	3.2	0.8	

Note: N= number of respondents, 1= mean of animal science lecturers, SD1= standard deviation of animal science lecturers, 2= mean of agricultural extension agents; SD2 = standard deviation of agricultural extension agents, g= grand mean of respondents SDg = grand Standard deviation of respondents.

Hypothesis 1

There is no significant difference in the mean ratings of the responses of animal science lecturers and agricultural extension agents on skills required by Agricultural Education Graduates in planning for Grasscutter farming.

Table 4 shows a p-value of .038 which is less than the alpha value of 0.05. This indicates that there was statistical significant difference in the mean response of animal science lecturers and agricultural extension agents on skills required by agricultural education graduates in planning of grasscutter farming. Therefore, the hypothesis of no significant difference for the two groups of respondents on skills required by agricultural education graduates in planning for grasscutter farming was rejected.

Status	N	Mean	Std. Deviation	Std. Error Mean	Df	t-cal	Sig.	Alpha value	Remarks
Animal Science Lecturers	48	2.95	0.34518	0.04982	239	-2.082	0.38	0.05	S, R
Agric. Extension agents	193	3.153	0.65375	0.04706					

Note: N= Number of respondents, Std = Standard deviation, df = degree of freedom, t-cal = t-calculated, Sig. = P-value; P < 0.05, S =significant, R = rejected.

Hypothesis 2

There is no significant difference in the mean ratings of the responses of animal science lecturers and agricultural extension agents on skills required by Agricultural Education Graduates in housing construction for Grasscutter farming.

Table 5 shows a p-value of .991 which is greater than the alpha value of .05. This indicates that there was no statistical significant difference between the mean ratings of the responses of animal science lecturers and agricultural extension agents on skills required by agricultural education graduates in housing construction for grasscutter. Therefore the hypothesis of no significant difference for the two groups of respondents on skills required by agricultural education graduates in housing construction for grasscutter was not rejected.

Status	N	Mean	Std. Deviation	Std. Error Mean	Df	t-cal	Sig.	Alpha value	Remarks
Animal science Lecturers	48	3.0854	0.43319	0.06252	239	-011	0.99	0.05	NS, NR
Agric Extension Agents	193	3.0865	0.66201	0.04765					

Note: N= Number of respondents, Std= Standard deviation, df = degree of freedom, t-cal= t-calculated, Sig. = P-value; P >0.05, NS=Not significant, NR= Not rejected.

Hypothesis 3

There is no significant difference in the mean ratings of the responses of animal science lecturers and agricultural extension agents on skills required by Agricultural Education Graduates in breeding Grasscutter. Table 6 shows a p-value of 0.017 which is less than the alpha value of 0.05. This indicates that there was statistical significant difference between the mean ratings of the responses of animal science lecturers and agricultural extension agents on skills required by agricultural education graduates in breeding of grasscutter. Therefore, the hypothesis of no significant difference for the two groups of respondents on skills required by agricultural education graduates in breeding of grasscutter was rejected.

Status	N	Mean	Std. Deviation	Std. Error Mean	Df	t-cal	Sig.	Alpha value	Remarks
Animal Science Lecturers	48	3.1083	0.26883	0.0388	239	-2.4	0.017	0.05	S, R
Agric Extension Agents	193	3.2596	0.41335	0.02975					

Note: N= Number of respondents, Std = Standard deviation, df = degree of freedom, t-cal = t-calculated, Sig. = P-value; P < 0.05, S =significant, R = rejected.

DISCUSSION OF RESULTS

The result of the study revealed that, 10 skills in planning for grasscutter, 10 skills in housing construction for grasscutter farming and 10 skills in breeding grasscutter were required by agricultural education graduates for success in grasscutter farming. The findings above were supported by the results of the corresponding hypotheses which revealed that there was no statistical significant difference between the mean ratings of the responses of animal science lecturers and agricultural extension agents on skills required by agricultural education graduates in planning and housing construction. This shows that the occupational experience of the two groups of respondents (animal science lecturers and agricultural extension agents) did not influence their opinion on the above skills. However, there was disparity in the mean ratings of the responses of animal science lecturers and agricultural extension agents on skills required by agricultural education graduates in breeding of

grasscutter. This was because the agricultural extension agents seems to rate the breeding skills higher than their counterparts. The finding on planning skills was in agreement with Shapiro who reported that planning involves a systematic process of establishing a need and then working out the best way to meet the need [18]. Litman also reported that one needs to decide on what to do and how to do it [19]. One needs to embark on careful planning before engaging in grasscutter farming. The findings were also supported by the view of Ogungbade, et al. who identified the following as skills required in planning operation: Formulate specific objectives for enterprise; Review the objectives of the enterprise periodically due to changes in demand and supply; Draw a time table of activities in grasscutter farming enterprise; Decide on location for sitting the farm; Identify relevant farm input required for the production; Budget for the grasscutter farm enterprise; Identify sources of fund for establishment of grasscutter farm [20].

The findings on housing construction were in conformity with Ugwuoke and Osinem who reported that cane rat can be kept in a metal cage of any dimension, house cane rat in wooden box, raise in a 3 m^2 house made of bricks or mud, plaster/concrete the floor and walls, roof the pen with any material, make the walls high to avoid cane rat jumping out, protect the pen from dog and thieves, provide nest boxes, raise five females and one male in an enclosure. The finding was also in line with Onebunne who affirms that the house must ensure proper hygiene of both the infrastructure and the animals must protect the livestock from danger and facilitates proper inspection, maintenance and handling. However their submission seems to reinforce the findings of this study.

The findings on breeding skills was in agreement with the findings of Obue who identified some skills required as follows: Identify the breeding season for grasscutters, set up the breeding pen for grasscutter, sterilize the breeding pen before stocking the grasscutter, select appropriate breeding stocks, determine when to put the breeding grasscutter in the breeding pen; provide enough space for the breeding stock, provide enough feed and water for the breeding stock, determine the gestation period for grasscutter, remove the breeding stock from the breeding pen after parturition, provide enough warmth in the breeding pen, select appropriate breeding stock. The opinion and reports of the authors cited above on skill items in planning, housing construction and breeding help to justify the findings of the study [21,22].

CONCLUSION

Based on the findings of this study, it was concluded that animal science lecturers and agricultural extension agents in Kaduna state are the same in their opinion on skills required by agricultural education graduates in grasscutter farming for self employment in Kaduna state. Even though there was statistical significant difference between the mean ratings of the responses of animal science lecturers and agricultural extension agents on skills required by agricultural education graduates in breeding of grasscutter, they all agreed that agricultural education graduates require all the skills in planning of grasscutter farming enterprise, housing construction for grasscutter farming,

breeding of grasscutter. These skills will empower the graduates to embark in grasscutter farming which will in turn improve their standard of living as well as reduce unemployment and crime among them.

RECOMMENDATIONS

Based on the findings of the study, the following recommendations were made: The identified skills in this study should be incorporated into the programme of the skills acquisition centre's in the state so that it could be used for retraining the unemployed agricultural education graduates for self employment.

The finding of the study should be made available to subsistence farmers by the state government through the state agricultural extension services and media to enable many of the unskilled farmers to acquire the identified skills in grasscutter farming which will improve their source of income generation.

All universities in the state should establish grasscutter units where agricultural undergraduates would be taught relevant practical skills required in grasscutter farming that after graduation be engage in a self employed farm business.

The identified skills should be integrated into the agricultural education curriculum so that the undergraduates would acquire the requisite skills in grasscutter farming before passing out of school.

CONCLUSION AND RECOMMENDATIONS

The formal Kenyan economy has been unable to create enough employment opportunities to absorb the constant supply of labour-seeking youth. Whatever the solution to this problem is, a great deal of coordination and skillful thinking will be required to attract gadget-loving and efficiency-prone young people into the agricultural sector. However, youth participation in the agriculture sector in Kenya is low, largely because the sector is highly unattractive due to risks, costs, inefficiency and its labour intensive nature. As such, motivating the youth to view agriculture as a career opportunity will require a multi-level intervention. The flow of information on agricultural production and marketing to youth has been hampered by under-utilization of information and communication technologies.

However, it is essential to digitize agricultural production and marketing information into web-based resources. This would enable wider outreach and use since the few available extension officers do not effectively reach the majority of the farmers at different locations. The youth could greatly contribute to the agricultural sector through actively participating in generating, posting, management and utilization of this information. Continuous initiatives to support youth in agricultural enterprises and widen the opportunities to showcase their successes in order to attract more young people are paramount. One of these should be the incorporation of information and communication technologies (ICTs) such as the internet, mobile phones, computers and Global Positioning Systems (GPS) associated or not with traditional communication technologies

such as radio, television, written press and video. It's therefore imperative that the county governments and the national government provide up-to-date information centers where young farmers can use the information to plan for a successful agribusiness.

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