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1. Ensure recommended changes and queries raised by the reviewers are incorporated and addressed in the revised manuscript.
2. The manuscript must follow the APA (6th Edition) style rule of citations, use of numbers, abbreviations, e.t.c.
3. Ensure thorough editing (proof reading and use of grammar and spelling checker on your computer) to be sure your manuscript is devoid of any errors. Non-compliance to this could disqualify your manuscript from inclusion in the Journal publication.
4. Manuscripts should not exceed 12 double-spaced pages (excluding references) and should be prepared using Times New Roman 12-point type.
5. Provide at least 4 Keywords immediately after the abstract.

Tables

Prepare tables according to APA (6th Edition).

- Titles of tables should be italicized and appear in initial capitals. Title should not be bold; but single-line spaced if it runs in 2 or more lines.
- Avoid grids on your tables. Use 3 major horizontal lines: the first two enclosing the headings on the table, and the last line at the end of the table. Use single line spacing within the table.
- Include effect size at the end of the title in bracket e.g. (n=340), where sample was studied; and (N=340) where an entire population was studied.
- Ensure your statistical information is presented accurately and properly.

Sample Table

Table 1

Views of Respondents Regarding Attitude of Agricultural Science Teachers Towards Use of Zero Tillage (n=182).

Attitude Item	Annual Crops		Perennial Crops	
	F	%	F	%
Never ready to use zero tillage	65	35.71	31	17.03
Readily adopts zero tillage	102	56.04	131	71.98
Indifferent to use zero tillage	15	8.24	20	10.99

References

- Ensure each citation contains all required information in line with APA Publication Manual.
- Match spelling of names in the text with names on the reference list.
- Titles of journals, books, dissertations, theses, and other documents should be italicized.
- Include Digital Object Identification (DOI) number where provided in the reference.

Eg.

Journal Article:

Onyeiwu, S.K. (2014). Teacher efficacy: A study of construct dimensions. *American Educational Research Journal*, 31, 627-643.

Book

Abubakar, L. (2006). *Powerful teacher education*. Lagos: Double Light Publishers.

Book Chapter

Agwubike, J.C. & Ojo, P.O. (2013). Sustainable agriculture in Nigeria. In S.O. Olaitan (Eds), *New directions in Nigeria's economic development* (pp. 91-97). Uyo: Delta Press.

General

As much as possible align your article to fit into the following headings:

- Abstract
- Introduction and (Theoretical or Conceptual Framework where necessary)
- Purpose and Objectives (or Purpose and Research Questions)
- Hypotheses
- Research Methods
- Results
- Discussion of Findings
- Conclusion and Implications
- Recommendations
- References

FROM THE EDITOR

This is Volume 6 of the **Journal of Agricultural Education Teachers Association of Nigeria (JAETAN)**. It is a product of the 5th Annual International Conference of the Association held at the College Pavilion of Federal College of Education, Obudu, Cross River State with the theme: **“Re-thinking Agricultural Education Curriculum for Globalization and Food Security”**, from the 1st – 3rd June, 2021.

Major issues discussed include: the theoretical nature of agricultural education curriculum implementation which produces graduates without productive skills; incompetence of Agricultural Educators to train graduates who are ready for the occupations; lack of adequate budgetary provisions for funding agriculture and agricultural education, and the steady decline in student enrolment in all agriculture-based courses in tertiary institutions, among others.

Some recommendations emanating as part of the Communique at the end of the conference were that: adequate budgetary provision should be specifically targeted at Agricultural Education to cater for facilities and equipment at all levels; admissions into agriculture-based courses in tertiary institutions should emphasize **interest** and **ability**, rather than mere academic qualifications; and instruction and teaching methods and evaluation should emphasize learning-by-doing and problem-solving approaches, among others.

This Volume of the Journal provides a good blend of qualitative and quantitative researches that proffer evidence-based recommendations to guide policies in Agriculture and Agricultural Education to achieve globalization and food security. Enjoy your reading.

Canice N. Ikeoji, Professor

Editor-in-Chief

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MOBILIZATION INITIATIVES FOR PROMOTING RURAL WOMEN'S ADOPTION OF RABBIT PRODUCTION FOR PROFIT AND FOOD SECURITY IN ENUGU STATE

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Abstract

This study identified initiatives for promoting adoption of rabbit production by rural women for profit and food security in the post Covid-19 era. Two research questions and two hypotheses guided the study. Survey research design was adopted for the study, and the population for the study was 137, made up of 117 agricultural science teachers and 20 agricultural extension agents in the study area. No sampling was done. Data was collected using structured questionnaire titled; Adoption Process Initiative Questionnaire (APIQ) made up of 15 items. The instrument was face-validated by 5 experts. The internal consistency of the instrument was determined by Cronbach Alpha reliability yielding an alpha coefficient of 0.94. The administration and collection of data was by personal contact with the help of two research assistants. The mean and standard deviation were used to analyze data collected and the t-test statistic was used to test the hypotheses at 0.05 level of significance. It was found that 7 mobilization initiatives could help rural women clarify issues in rabbit production and 8 initiatives could help them adopt the rearing of rabbits for profit in the post covid-19 era. It was recommended that the ministry of Agriculture, Agricultural Development Projects ADP, Commercial Agricultural Development Projects (CADP), among others should offer grants, design programmes, provide needed facilities, organize free training workshops for rural women to encourage them to embark on rabbit enterprise for profit and food security.

Keywords: Mobilization initiatives, Covid-19 era, rural women, Rabbit production, Profit, Food security.

Introduction

Rabbits are small harmless farm animals with enormous food, economic, nutritional and health values. The rabbit, (*Oryctolagus cuniculus*) is a descendent of wild rabbits of South Europe and North Africa (Moreki, 2007). Diane (2011) described rabbits as "small, furry mammals with long ears, short fluffy tails and strong, large hind legs. Every rabbit has two pairs of incisors (front teeth), a pair each on top and below. Their teeth are specifically adapted for gnawing and grow continuously throughout

their lives. A male rabbit is called a buck, a female a doe, and a baby rabbit a kid".

There are different classes of rabbit. Moreki (2007) classified rabbits into meat breeds and fur breeds. The meat breeds are usually larger and fleshier and are reared particularly for their meat. Examples of meat rabbit are Newzealand White, Newzealand Red and the Californian breeds. The fur breeds are reared mainly for production of fur for textile industries and used for the production of wool materials. Examples of rabbit reared for fur are Rex, American

Chinchilla, Checkered Giants, Silver Martins and the Angora.

Rabbits possess certain qualities that make investing on them a worthy and profitable venture. According to Cheeke (1986), the qualities include short gestation interval, high reproductive potential, rapid growth rate, genetic diversity, and the ability to utilize forages and by-products as major diet components that make the animal appropriate for small livestock keeping. Rastogi (2000) acknowledged that the "small size and quiet nature of rabbits make it easy to raise them in cities, suburbs and village communities; the large litter size and short gestation interval account for economic returns in the short term (12 – 15 fryers/does/year); and they are 2.5 and 4 times more efficient in extracting protein from forages than sheep and beef cattle. Rabbit farming requires low capital investment and yield good quality meat that is low in fat and cholesterol. Barwa (2009) noted that 'rabbit production can provide the impoverished urban population and the resource-poor rural dwellers the opportunity to meet part of their total protein intake and earn additional income.

The unique characteristics of rabbit makes it suitable for easy production. In the context of this study, rabbit production is the process of converting input such as land, labour, money, and materials for rearing rabbit for profit to increase income. The end result of the whole process is for consumption, experimental purposes, and to generate income for meeting some domestic needs especially for rural women.

Rural women, usually live in the rural areas of Nigeria, most of them do not have formal education, engage in economic activities that hardly earn them and their families a decent living; have poor health, do not participate in decision making in their families and lack group cohesion (Ukwuaba & Igbo, 2013). The Women for Women International (WFWI) (2009) observe that rural women in Nigeria have poor knowledge and skills about health precautions and

nutrition. However, their level of income can be enhanced through low input investment and high return of income such as rabbit production. But the income earning quality of this micro-livestock and its potentials in ensuring food security is not known to these women. Thus, engaging the rural women in rabbit production in addition to enhancing the income of the rural women could be a means of alleviating the national food security problem.

Food security takes first place among the many reasons why human beings engage in economic activities. Ojo and Adebayo (2012) defined food security as people's constant access to the food needed for a healthy life at all times. They explained that a country is said to be food-secure when larger number of its population have access to adequate quantity and quality of food that is consistent with decent living every time. Furthermore, food security exists when food is available to the people to such an extent that the acceptable level of nutritional standards in terms of calories, proteins and minerals which the body needs are met as well as when people are able to acquire the means by which food can be possessed, and when there is possibility of reasonable continuity and consistency in food supply (Ojo & Adebayo, 2012). The various dynamics that affect food security and nutrition in complex ways and which are termed the four traditional pillars of food security are food availability, access, stability and utilization (The High Level Panel of Experts on Food Security and Nutrition (HLPE), 2020). Food availability issue dwells with the existence or presence of food for people to buy or eat. Various threats to food availability include disease outbreak, flooding, drought or wars that could destabilize people thereby preventing them from farming. Food access occurs when food is available but it is difficult for people to obtain. This could result from hoarding, inaccessibility to sources of production among others. Food stability has to do with the consistency of getting food whenever it is

required. This could also result from various issues like fluctuation in weather, migration of farmers among others. Food utilization deals with maximal use of food to meet human nutrition. Various issues that could affect this include lack of storage and processing systems, lack of requisite knowledge and technology to maximize food usage which could lead to food insecurity.

Nigeria's food security problem and resulting malnutrition can also be attributed to poor funding for sustainable policies, limited mechanized farming, poor rural development, and prohibitive practices that disenfranchise women farmers. The effect of these issues that affects the dynamics of food security according to the authors is that about 9 out of 10 Nigerians cannot afford a healthy diet, while Nigeria is rated second highest country with burden of stunted children across the globe, and millions of children suffer from acute malnutrition. This has been the food situation in Nigeria implying that Nigeria has not been food secure. This existing scenario is further compounded by the outbreak of the Global Pandemic called COVID19.

COVID19 is a global disease that broke out in year 2019 and spread steadily until it covered the entire world thereby making it a global pandemic. ICMSF (2020) described COVID-19 as a respiratory illness. WHO (2021) defined coronaviruses as a large family of viruses that are known to cause illnesses ranging from common cold to more severe diseases such as the Severe Acute Respiratory Syndrome (SARS). The outbreak of this disease comes with a lot of challenges and effects on virtually all sectors of the economy including agriculture. Almost all nations of the world felt the impact of COVID19 outbreak. World Bank (2021) remarked that COVID-19 impacts have led to severe and widespread increases in global food insecurity, affecting vulnerable households in almost every country, with impacts expected to continue through 2021 and into 2022. Though the problem of food insecurity has been plaguing most nations

before the advent of COVID19, the outbreak of the pandemic has further made most vulnerable families and nations to be more affected by food insecurity. Okafor, Aluko and Ashaolu (2020) stated that the COVID-19 pandemic has worsened the hunger situation, particularly impacting food supply and prices. USAID (2021) further remarked that Nigeria is already facing a food security crisis which has been aggravated by the COVID-19 global pandemic with its effects on the food value chain in the country. The organization noted that pandemic has significantly disrupted already fragile agricultural value chains across the country by limiting people's ability to produce, process, and distribute food. This disruption to agricultural productivity and markets brought a negative impact on livelihoods and the most vulnerable households have mostly been affected. The income and food security of many households was affected by the pandemic as a result of loss of job, death of breadwinners as a result of the disease, loss of business due to the lockdown, wastage of resources or perishable goods during the lockdown and a host of other challenges arising from the COVID 19 diseases (FAO, 2020). Balana, *et al.* (2020) also observed that the Government's policy measures such as travel restrictions, lockdowns, and restrictions on economic and social activities that are geared towards curbing the spread of COVID-19, had affected the livelihoods and food security of smallholders in Nigeria. Among these small holders are women farmers, and housewives with petty business who can be classified within the vulnerable groups. Therefore, to assist these most vulnerable groups government has engaged in lots of interventions to cushion the impact of COVID-19 on them.

In cushioning the effects of COVID-19 on households' income and raising the agricultural and food security levels, various measures and interventions have been adopted. According to Okafor, Aluko and Ashaolu (2020), reducing Nigeria's food insecurity demands a concerted effort from

the government and private sectors working together to ensure peace, promote mechanized farming, support and empower women and rural farmers, and provide comprehensive financial support. Some of the measures adopted by Nigerian government include the distribution of COVID-19 palliatives, COVID-19 survival funds, among others. However, most of these measures would only serve to cushion the effects of COVID-19 in a short-term basis as the money will be expended on immediate needs, thus necessitating the adoption of more sustainable measures. One of such sustainable measures is to assist women to engage in small or medium scale livestock rearing by adopting appropriate mobilization initiatives.

Mobilization initiatives include the process of assembling, making ready or moving people into action by carrying them along, with the aim of making intelligent decisions and new plan for dealing with a particular problem or achieving a particular purpose by transferring past experiences into current problem-solving in ways that payoff (Seth, 2013; Merrian Webster, 1993). This process will entail the six components of mobilization which make up six models which can be followed in developing a programme (Olaitan, 2005). By application and inference, strategies for mobilizing rural women in rabbit production can be identified through the six components of mobilization. They are namely: Awareness, Interest, Decision making, Clarification, Adoption, and Satisfaction. Therefore, mobilization initiatives for rural women in rabbit production entail an intelligent plan to transfer successful experiences in rabbit production following the six components to solve the problem of food insecurity among rural women by mobilizing them to embark on rabbit production to increase their income.

This is very important due to the myriads of problems generated by the pandemic in the society and which rural women are among the most affected. The problem created by the COVID 19 pandemic

has taken major toll on the socio-economic status of most rural women due to their lack of sustainable source of income. Most rural women had before the pandemic engaged in petty trading which could hardly support them as an individual talk less of their entire household. The outbreak of Covid 19 and the lockdown had led to the exhaustion of their capital base for their petty trading, therefore leaving them with no source of income. Meanwhile, some of these rural women are widows who are struggling to feed due to loss of their breadwinner. However, the outbreak of the pandemic has worsened their situation thereby leading many of them to street begging and theft for them to be able to feed. This issue could also have a multiplying effect as it could make some of the younger dependants of these rural women to engage in some social vices like armed robbery, prostitution, kidnapping and other vices in a bid to salvage their family from the hands of poverty and hunger. Therefore, to prevent these scenarios, providing mobilization initiatives for rural women to engage in a profitable and high yielding venture like rabbit production could save the individual household and the entire society at large. Hence, this study on mobilization initiatives for promoting rural women's adoption of rabbit production for profit and food security in Enugu state.

Purpose of the Study

The general purpose of the study was to determine mobilization initiatives for promoting rural women's adoption of rabbit production for profit and food security in the post-covid-19 era. Specifically, the study sought to determine mobilization initiatives for:

- i. clarifying issues to women on rabbit production in Enugu State; and
- ii. assisting rural women adopt rearing of rabbits for profit in Enugu State.

Research Questions

The following research questions were answered by the study.

1. What are the mobilization initiatives that will help rural women in Enugu State to clarify issues in rabbit production?
2. What are the mobilization initiatives that will assist rural women in Enugu State to adopt the rearing of rabbit for profit?

Hypotheses

The following null hypotheses were formulated to guide this study and were tested at 0.05 level of significance.

1. The teachers of agriculture and extension agents do not differ significantly in their opinion on mobilization activities that will help rural women clarify issues bordering on rabbit production.
2. The mean ratings of the responses of teachers of agriculture and extension agents do not differ significantly on the mobilization initiatives that will assist rural women in Enugu State to adopt rearing of rabbits.

Methodology

The study was carried out in Enugu State. The design for the study was descriptive survey. According to Kothari and Garg (2014), descriptive survey design is that which describes the characteristics of a particular individual or a group, and is concerned with specific predictions, narrations of facts and characteristics about individual, groups or situations, defining clearly what things to measure and the population to be studied. The population for the study was 137 made up 117 teachers of agricultural science from 59 public secondary schools and 20 extension agents in Nsukka agricultural zone. No sampling was done because the entire population used for the study was manageable.

The instrument used for data collection was a 15-item structured

questionnaire titled Adoption Process Initiative Model Questionnaire, with four response options of strongly agree (SA), agree (A) disagree (D) and strongly disagree (SD) with corresponding values of 4, 3, 2 and 1 respectively. The structured questionnaire was face-validated by 5 experts; 2 from the Department of Agricultural Extension, University of Nigeria, Nsukka, an extension agent from the Agricultural Development Project (ADP) Enugu State and two others from the Faculty of Agriculture, Department of Animal Science, University of Nigeria, Nsukka. Cronbach alpha method was used to determine the reliability of the instrument which yielded a co-efficient of 0.94 for all the items. One hundred and thirty-seven copies of the questionnaire were administered on the respondents through personal contact with the help of two research assistants.

The data were collected and analyzed using mean, standard deviation and the null hypotheses were tested using t- test statistic. The mean was used to answer the research questions, the standard deviation was used to determine the spread of the respondents (how close the responses are to the mean), and the t-test statistic was used to test the null hypotheses at a probability of 0.05 and at appropriate degrees of freedom. The following decisions guided the interpretation of results of the analysis made; any item with a mean value within 3.50-4.00 is accepted as strongly agree and anyone with a mean value within 2.5-3.49 was accepted as agree; while any item with a mean value of 1.5-2.49 was adjudged as disagree and a mean value of 1.00 to 1.49 was strongly disagree. For the hypothesis, it was accepted for any item with a calculated t-value greater than or equal to 0.05 and rejected if otherwise.

Results

Table 1

Mean Ratings and t-test Analysis of the Responses of Two Groups of Respondents on Mobilization Activities that will help Rural Women Clarify Issues Bordering on Rabbit Production (N=137)

S/N	Item Statement	Extension Agent (N ₁ = 20)		Teachers of Agric (N ₂ = 117)		Grand Mean	Sig.(2-tailed)	Remark
		X ₁	S ₁ ²	X ₂	S ₂ ²	X _G		
1.	Telling rural women, the best breeds of rabbit.	3.20	0.70	3.31	0.61	3.26	0.52	NS
2.	Displaying the common meat breeds of rabbit to them	3.10	0.64	3.20	0.63	3.15	0.52	NS
3.	Exhibiting to rural women samples of	3.05	0.89	3.40	0.60	3.23	0.10	NS
4.	Make available to rural women soft loans to take-off in the rabbit business	2.90	0.72	3.44	0.64	3.17	0.00	S
5.	Show women the step-by-step processes of establishing a rabbit farm using Slide shows, projectors, and demonstration.	3.00	0.97	3.45	0.59	3.23	0.06	NS
6.	Help rural women prioritize how to start off on the rabbit business based on available resources.	3.15	0.81	3.42	0.63	3.29	0.17	NS
7.	Lead women to rabbit farms where good meat rabbits are reared to observe the ability to produce large number of kids at a time.	3.20	0.62	3.44	0.56	3.32	0.11	NS

Key: NS=Not significant and S=Significant

Data on Table 1 showed that all the seven items had means above the cut off of 2.50. This indicates that the respondents agreed that the seven item statements were initiatives that can help clarify issues about rabbit production for rural women in Enugu State. The standard deviation of the items was less than 1 indicating that the opinions of the respondents were not far apart. The data on hypotheses tested revealed that six items had calculated values of significance greater than 0.05, therefore, the null hypothesis of no significance was accepted for the six items while the alternative hypothesis of significance (H_a) was rejected. This implies,

there is no significant difference between the mean ratings of the responses of teachers of agriculture and agricultural extension agents on telling rural women of the best breeds of rabbits, displaying the common meat breeds of rabbits to them, among others. The data also showed that one item had calculated value less than 0.05 hence, the alternative hypothesis (H_a) was upheld and the null hypothesis rejected. This implies teachers of agriculture and agricultural extension agents differ in their opinions on making available to rural women soft loans to take-off in the rabbit business as a way of clarifying issues bordering on rabbit production.

Table 2

Mean Ratings and t-test Analysis of the Mean Ratings of Responses of Two Groups of Respondents on Mobilization Activities to Use to Assist Rural Women in Enugu State to Adopt Rearing of Rabbit Production for Profit (N=137)

S/N	Item Statement	Extension Agent (N ₁ = 20)		Teachers of Agric N ₂ = 117		Grand Mean X _G	Sig.(2-tailed)	Remark
		X ₁	S ₁ ²	X ₂	S ₂ ²			
1.	Help Rural women to obtain access to agricultural loans and other financial aids for rabbit production.	3.10	0.72	3.52	0.57	3.31	0.02	S
2.	Help rural women to obtain good meat breeds that produce large carcass.	3.05	0.69	3.37	0.55	3.21	0.06	NS
3.	Link rural women up with extension agents who can help them to solve problems they encounter in rabbit production process.	3.15	0.59	3.44	0.56	3.30	0.05	NS
4.	Encourage close link and maintain the link with extension agents.	3.25	0.79	3.38	0.58	3.32	0.50	NS
5.	Enlightening rural women about how to formulate rabbit feed from cheap resources	3.35	0.59	3.38	0.55	3.37	0.86	NS
6.	Link up rural women with ready markets for live rabbits or processed rabbits.	3.00	0.73	3.46	0.55	3.23	0.01	S
7.	Assist rural women to identify and locate places to obtain good meat breeds	3.05	0.69	3.31	0.56	3.18	0.13	NS
8.	Identify sources of needed experts' advice.	3.15	0.93	3.41	0.51	3.28	0.24	IS

Key: NS=Not significant and S=Significant

The data presented in Table 2 showed that all the eight item statements had means above the cut-off of 2.50; indicating that the two groups of respondents agreed that the eight items are mobilization initiatives to assist rural women adopt the rearing of rabbits for profit and food security. The standard deviation was less than one indicating that the opinions of respondents were not too far apart which helped to validate the opinions of the respondents. Table 2 also showed that six items had calculated values of significance greater than 0.05, indicating that there was no significant difference between the mean ratings of the responses of the two groups (teachers of agriculture and agricultural extension agents) on the six mobilization activities that will assist rural women to adopt the rearing of rabbit for profit and food security. With this result, the null hypothesis of no significant difference between the two groups was

upheld for the six items while the alternative hypothesis was rejected. The data also showed that two of the eight items had calculated values of significance less than 0.05, implying that there was a significant difference between the mean ratings of the responses of teachers of agriculture and agricultural extension agents on the two mobilization initiatives to assist rural women adopt the rearing of rabbit for profit in Enugu State, so the alternative hypothesis (H_a) was upheld.

Discussion of Findings

The result in Table 1 showed that seven initiatives are needed for rural women in Enugu State to be clarified on issues bordering on rabbit production. These include; telling rural women the breeds of rabbits, displaying the common breeds of rabbits to them, exhibiting to rural women samples of resources needed for rabbit

production, such as housing, feed and so on, among others. These findings support those of Seth (2013) and Emone (2003) who in their various works emphasized the need for people to have adequate understanding and seek necessary clarifications about enterprises and ventures they want to invest in. This will enhance the chances of participation and success in such businesses.

The results in Table two showed that eight initiatives are needed to assist rural women in Enugu State adopt rabbit production for profit and food security in the post-covid era. The initiatives include; helping rural women obtain access to loans and other financial aids for rabbit production, helping rural women to obtain good meat breeds that produce large carcass, among others. The findings are in line with those of Olaitan (2005) who observed that people are more likely to engage in agricultural ventures when adequately mobilized through the provision of material and financial resources, and the requisite skills required for success. This goes to justify the fact that farmers cannot engage in any productive venture unless they have the resources required for investment.

Conclusion

Rabbit production is a high income generating venture which could assist rural women in this Covid-19 era to generate extra income to meet their ever-increasing needs so as to be food-secure. This can however, only be made possible by providing necessary clarifications on key issues in rabbit production and adequately mobilizing them to engage in the rearing of rabbit.

Recommendations

On the basis of the findings of this study, the following recommendations were made:

1. Relevant government agencies should educate and enlighten rural women on the benefits and comparative advantage of rearing rabbit.

2. The ministry of women development and agriculture should use the mobilization initiatives to encourage rural women to participate in rabbit production.

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