EXTENSION SERVICES REQUIRED FOR ENHANCING RICE FARMERS' PRODUCTIVITY IN A DEPRESSED ECONOMY

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Abstract

The study investigated the extension services required for educating rice farmers in depressed economy for increased rice production. The study was carried out in Uzo-uwani Local Government Area of Enugu State. A destructive survey design was used for the study. A sample size of 80 rice farmers was selected from 150 rice farmers. Mean, standard deviation, frequency, percentage, and chi-square were used to analyze the data collected. The findings showed a higher prevalent rate of extension services. The results also showed that the mean responses of female farmers of each item are higher than male counterparts in terms of whether the extension services are always prevalent. Extension services for educating rice farmers on depress economy for increased production. The results further showed that the farmers agreed that linkage to market, provision of inputs, radio/television extension programmes, provision of advice on marketing situations, amongst others for educating rice farmers would increase rice production in the study area

Keywords: *Extension services, Rice farmers, depressed economy, Production*

Introduction

Rice is very important to individuals and our country at larger It is also a cereal crop widely consumed and cultivated for more than 100,000 years longer than any other crops (Food and Agricultural Organization, 2013). Rice is a strategic and priority commodity for food security in Africa. Consumption of the staple is growing faster than that of any other major staple on the continent as a result of high population growth, rapid urbanization and changes in eating habits (Seck et al, 2013). Rice belongs to the order Poales and the grass family *Poaceae* onformally *Gramineae* (Mohammed, et.al 2019). Rice is very important in Nigeria, based on the various ways it can be used. Roy-Macauley (2019) noted that rice is the most important source of dietary energy in West Africa and the third most important for Africa as a whole". Rice is essential food for over half of the world's population and the most important among all the cereal crops (Dogara & Jumare, 2014). Approximately 480 million metric tons of. In Nigeria rice has consumption per capita of 32kg indicating 4.7% increase in the past decade making the total consumption to be 6.4 million tonnes in 2017 as against 3.7 million tonnes produced per year (Erhie et al., 2018). Two species of rice named *Oryza sativa* and *Oryzagla berrimaare* known, which is former cultivated throughout the world while the latter is grown partially in western part of Africa (Von & Kole, 2006). The acceptance of rice as food has witness an upsurge lately by becoming a major crop in many countries in America and Africa (Seck et al., 2012). Local dishes prepared with rice in Nigeria most especially the northern part include "Masa or "Waina", "Tuwo", and "Alkakki", while the most common form of food prepared with rice all over the country include pudding and boiled form eaten with stew or combined with potatoes, yam, beans and pears (Oludare, 2014).The capability to produce more rice has aided in development of numerous communities, while its failure has led to the spread of starvation, death and political uncertainty in many countries including Nigeria (Seck et al., 2012; Oludare, 2014). Rice Productivity increases in agriculture can reduce poverty by increasing farmers' income, reducing food prices and thereby enhancing increments in consumption (Diagne et al., 2009). The Department for International Development (2003) estimated that a 1% increase in agricultural productivity reduces the percentage of poor people living on less than 1 dollar a day by between 0.6 and 2%, and no any other economic activity generates the same benefit for the poor, this is as lack of information to the farmers. According to Research Leadership Development Consortium (RLDC) (2009), most of the rice farmers lack information on the improved seeds hence sticks to traditionally preferred varieties which are not economically efficient but have prominent aromatic and palatability characteristics. In addition, most of the rice farmers in Africa lack access to modern processing technology and market information (Matovelo, 2008). Ferris (2005) stated that in most African countries lack accurate and relevant agricultural information by small- scale farmers is a major factor constraining efforts to improve the agriculture sector. Vincent (2019) stated that low

productivity underutilization of the available improved technologies, lack of agricultural support services as well as low incomes are the key features of agriculture in Nigeria, especially in relation to rice production. According to Williams et al (2005) and Tiamiyu et al. (2009), inefficient communication and dissemination strategies have to be a large extent contributed to the inaccessibility of agricultural knowledge amongst rice farmers in most rural areas. Adesina (2015) opined that inaccessibility of useful agricultural knowledge and information has been limiting for rice productivity. Amidst living in this period of rapid scientific and technological development, farmers still engaging traditional system of rice production in most communities (Gerald, 2015). According to most rice farmers rely on traditional rice farming which is characterized by low productivity due to inadequate modern agricultural knowledge. However, rice has long been dominant part of a population's diet for about half of the human race (Ojehomon et al., 2009). According to Erenstein et al. (2004) improved rice production technologies have potential to improve nutrition, boost food affluence, promote community development and reduce poverty. Rice productivity could be increased amongst rural farmers when improved rice technologies are fully adopted. According to Okoro et, al. (2016) the information needs of farmers change from time to time due to changing agricultural technologies, environmental changes, agricultural policies, and the emergence of agricultural innovations. Yet, there is inadequate information for rice farmers of Uzo-Uwani Local Government Area, Enugu State. This information gap has been stated in a past study which the disparities between breeders' and farmers' evaluation criteria in breeding and preference for rice varieties respectively (Okoro et al, 2023). That is why Babu et al. (2011) had stated that a better understanding of farmers' agricultural information needs and information sources could help guide extension and other agricultural programs to better target specific groups of farmers.

Nwuzor (2009) view agricultural extension as a service or system which assists farm people through educational procedures in improving farming method and techniques, increasing production efficiency and income, bettering their levels of living and lifting social and educational lives of rural people. It ensures information obtained and assembled from research studies based on experience, trail and demonstration for the purpose of extending knowledge to the rural dwellers. Extension is one of the government policy mechanisms that have an important role to play in developing agriculture, hence many governments in the world have ministry of agriculture with extension and research components (Neha, Dhyani 2022). Extension services ensuring that agriculture develops and assume its rightful position in the arena of development especially small scale and upcoming commercial farmers. For example Neuchatel (2007), confirmed that a well-designed extension services contribute to improving agricultural production, land use systems, reduce rural poverty and equitable economic development through facilitating access to market for farm supporting the sustainable management of natural resources, enhancing the management of rural communities and other agricultural sectors, Extension is not a one way process in which the extension officer transfers knowledge and ideas to farmers and their families, but it should be a two way flow of ideas, suggestions or even advice. Extension bridges the gap between the farmer and research (Garforth & Oakley, 1985). Extension provides technical knowledge and information, provides technical knowledge and information to assist farmers to improve their farming. The information can be related to crops, animal economics, and natural resources. Bachhav (2012) stated that, the use of information in agriculture sector is enhancing farming productivity in a number of ways. Providing information on weather trends, best practice in farming, timely access to market information helps farmer make correct decisions about what crops to plants and where to sell their product and buy inputs. Rice remains one of the major staple crops cultivated by farmers using both the upland and lowland production systems (Okoh, Opata & Umaru, 2022). These rice varieties are produced by small-scale farmers that constitute about 80% of the rice farmers' population on less than a hectare leading to relatively poor yield (Olayinka & Alfred, 2019; Omoare and Oyediran, 2020). Operationally, extension service can be defined as a group people who assist farmers on their farm production, in term cultivation practices, application of fertilizers, planting period and time of marketing their product. With the guide of extension services, farmers will yield more production which reduces poverty in our societies.

Another means of extension services is Farmer Field School: This is one of the strategies which can be applied to mobilize farmers around a particular topic. It consists of a set of principles which are followed by the extension technician and it is base by a knowledgeable subject matter specialist. This approach has been used successfully in Asia in the cultivation of rice. Farmer Field Schools (FFS) is a community-based approach. It empowers farmers to make logical crop

management decisions, exposes farmers to new ways of thinking and problem solving, and encourages them to implement and discuss solutions on their own (Kubiribaet al., 2012). FFS also shortens the time between research stations to adoption and facilitates the building of coherent farmer groups that are able to demand for services. The Scientist team is involved in the training of trainers who are usually local extension officers. The trainers are additionally trained in setting-up and running farmer field schools (Owen and Simpson, 2024). In Uzo- Uwani, Enugu State, rice farmers lack information and skills for emerging technologies needed by rice farmers increased production. This bring about poverty to the farmers low incomes low yield of production in Uzo- Uwani. The role of information in enhancing agricultural development in Uzo-Uwani Local Government Area, Enugu State cannot be over emphasized.

Purpose of the Study

The general purpose of this study is to ascertain

1. extension services required for enhancing rice farmers production in a depressed economy
2. extension services required for enhancing rice farmers in Uzo-Uwani according to gender
3. extension services required for educating rice farmers in depressed economy for increased production

Research Questions

The following research questions guided this study

1. What is the requirement rate of extension services in enhancing rice farmers in Uzo-Uwani Local Government Area?
2. What is the extension services required for enhancing rice farmers in Uzo-Uwani according to gender?
3. What are extension services for educating rice farmers on depress economy for increased production?

A descriptive survey research design was adopted for the study. Shona (2019) stated that descriptive research design can accurately and systematically described a population, situation or phenomenon under investigation The study was carried out in Uzo-wani Local Government Area, Enugu State Nigeria. Enugu State is one of the states in South-East Nigeria. The people are primarily farmers, being famous for rice and cassava production. Crop production is all year round in irrigated.

The population for this study is 150 registered rice farmers in Uzo- Uwani local area, Enugu State. multi-stage sampling was used. Purposive sampling techniques was used to draw 80 rice farmers in Uzo-wani Local Government Area in Enugu State The sample size for the study was 80 rice farmers in Uzo-wani Local Government Area in Enugu State. Because they were people that indicated interest to participate in the study among the entire registered farmers. The instrument used for data collection was structure questionnaire. The instrument was based on 3-point scale which includes each of the following items as always, sometime and never. The response categories were assigned numerical value as 3,2, and 1 respectively. The instrument has total items of 13. The scale has three points' response options which include: 3= Always 2= Sometimes 1= Nevers. This instrument was validated by three experts in agricultural education, correction was made by the experts and the correction was effected by the researcher that gave the final copy. 30 copy of the instrument was distributed to rice farmers in Igbariam, Anambra State. A Cronbach-alpha statistic was used to test the internal consistency of 0.76.

The researcher administered and collected the instrument from the respondents. The data collected was analysed using mean and standard deviation.

Results

Extension services required for enhancing rice farmers production in a depressed economy

Table 1: Frequency and percentage the prevalent rate of extension services in Uzo-Uwani Local Government Area

S/N	Extension services	Always	Sometimes	Never
1	Linkage to market	53(63.9%)	20(24.1%)	7(8.4%)
2	Method Demonstration	49(59.0)	20(24.1)	11(13.3)
3	Provision of inputs (fertilizer, seed etc.)	61(73.5)	16(19.3)	3(3.6)
4	Radio/Television extension Programmes	49(59.0)	26(31.3)	5(6.0)
5	Provision of advice on marketing situations	60(72.3)	15(18.1)	5(6.0)
6	Creating awareness through electronic media	55(66.3)	19(22.9)	6(7.2)
7	Provision of technical advice	61(73.5)	16(19.3)	3(3.6)
8	Use of group contact to pass technical information	59(71.1)	15(18.1)	6(7.2)
9	Use of interpersonal contacts to pass technical information	58(69.9)	15(18.1)	7(8.4)
10	Advice on use of input	51(61.4)	21(25.3)	8(9.6)
11	Supply of agrochemical	71(85.5)	6(7.2)	3(3.6)
12	Linkage to credit source	64(77.1)	10(12.0)	6(7.2)
13	Provision of equipment hiring service	16(19.3)	3(3.6)	61(73.5)

Table 1 shows the frequency and percentage of participants on the prevalent rate of extension services in Uzo-Uwani Local Government Area. The results showed that 53(63.9%) farmers agreed there is always linkage to market as service of extension agents, 20(24.1%) agreed that it is sometimes, and 7(8.4%) agreed that it is never prevalent. In terms of Method Demonstration, 49(59.0) agreed that it is always there, 20(24.1) stated that it is sometimes, and 11(13.3) agreed that it is never. The results showed that 61(73.5) farmers agreed there is always Provision of inputs as service of extension agents, 16(19.3) agreed that it is sometimes, and 3(3.6) agreed that it is never prevalent. In terms of Radio/Television extension Programmes, 49(59.0) agreed that it is always there, 26(31.3) stated that it is sometimes, and 5(6.0) agreed that it is never. The results showed that 60 (72.3) farmers agreed there is always Provision of advice on marketing situations as service of extension agents, 15(18.1) agreed that it is sometimes, and 5(6.0) agreed that it is never prevalent. In terms of Creating awareness through electronic media, 55(66.3) agreed that it is always there, 19(22.9) stated that it is sometimes, and 6(7.2) agreed that it is never. The results show that 61(73.5) farmers agreed there is always Provision of technical advice as service of extension agents, 16(19.3) agreed that it is sometimes, and 3(3.6) agreed that it is never prevalent. In terms of Use of group contact to pass technical information, 59(71.1) agreed that it is always there, 15(18.1) stated that it is sometimes, and 6(7.2) agreed that it is never. The results show that 58(69.9) farmers agreed there is always Use of interpersonal contacts to pass technical information as service of extension agents, 15(18.1) agreed that it is sometimes, and 7(8.4) agreed that it is never prevalent. In terms of Advice on use of input, 51(61.4) agreed that it is always there, 21(25.3) stated that it is sometimes, and 8(9.6) agreed that it is never. The results show that 71(85.5) farmers agreed there is always Supply of agrochemical as service of extension agents, 6(7.2) agreed that it is sometimes, and 3(3.6) agreed that it is never prevalent. In terms of Linkage to credit source, 64(77.1) agreed that it is always there, 10(12.0) stated that it is sometimes, and 6(7.2) agreed that it is never. The results show that 16(19.3) farmers agreed there is always Provision of equipment hiring service as service of extension agents 3(3.6) agreed that it is sometimes, and 61(73.5) agreed that it is never prevalent. The results show a higher percentage of farmers agreed that extension services programmes are always prevalent in Uzo-Uwani local government area.

Table 2 frequency and percentage of the prevalent rate of extension services according to gender

S/N	Extension services	Always		Sometimes		Never		*P.*	χ^2
		Females	Males	Female	Males	Female	Males		
1	Linkage to market	37(63.8%)	16(72.7%)	15(25.9%)	5(22.7%)	6(10.3%)	1(4.5%)	0.868	0.648
2	Method Demonstration	37(63.8%)	12(54.5%)	10(17.2%)	10(45.5%)	11(100.0)	0(0.0%)	0.009	9.473
3	Provision of inputs (fertilizer, seed etc.)	41(70.7%)	20(90.9%)	14(24.1)	2(9.1%)	3(5.2%)	0(0.0%)	0.150	3.799
4	Radio/Television extension Programmes	35(60.3%)	14(63.6%)	18(31.0%)	8(36.4%)	5(8.6%)	0(0.0%)	0. 356	2.064
5	Provision of advice on marketing situations	44(75.9%)	16(72.7%)	9(15.5%)	6(27.3%)	5(8.6%)	0(0.0%)	0. 213	3.093
6	Creating awareness through electronic media	37(63.8%)	18(81.8%)	15(25.9%)	4(18.2%)	6(10.3%)	0(0.0%)	0.180	3.426
7	Provision of technical advice	58(100.0%)	22(100.0%)	31(53.4%)	17(77.3%)	27(46.6%)	5(22.7%)	0.052	3.772
8	Use of group contact to pass technical information	47(81.0%)	12(54.5%)	10(17.2%)	5(22.7%)	1(1.7%)	5(22.7%)	0. 004	11.155
9	Use of interpersonal contacts to pass technical information	42(72.4%)	16(72.7%)	11(19.0%)	4(18.2%)	5(8.6%)	2(9.1%)	0. 995	009
10	Advice on use of input	35(60.3%)	16(72.7%)	15(25.9%)	6(27.3%)	8(13.8%)	0(0.0%)	0. 180	3.430
11	Supply of agrochemical	56(96.6%)	15(68.2%)	2(3.4%)	4(18.2%)	0(0.0%)	3(13.6%)	0. 001	13.972
12	Linkage to credit source	48(82.8%)	16(72.7%)	10(17.2%)	0(0.0%)	0(0.0%)	6(27.3%)	0.000	19.812
13	Provision of equipment hiring service	38(65.5%)	16(72.7%)	12(20.7%)	6(33.3%)	8(13.8%)	0(0.0%)	0177	3.465

Table 2 shows the frequency and percentage of the prevalent rate of extension services according to gender. The results show that the mean responses of female farmers of each item are higher than male counterparts in terms of whether the extensive services are always prevalent. All in all, both female and male farmers agreed on the prevalence of extension services in Uzo-Uwani local government area.

Table 3: Descriptive Statistics (Mean and Standard deviation) of extension services for educating rice farmers on depress economy for increased production

Extension services	n	Minimum	Maximum	Mean	SD
Linkage to market	80	1.00	3.00	2.58	.66
Method Demonstration	80	1.00	3.00	2.48	.73
Provision of inputs	80	1.00	3.00	2.73	.53
Radio/Television extension Programmes	80	1.00	3.00	2.55	.61
Provision of advice on marketing situations	80	1.00	3.00	2.69	.59
Creating awareness through electronic media	80	1.00	3.00	2.61	.63
Provision of technical advice	80	2.00	3.00	2.60	.49
Use of group contact to pass technical information	80	1.00	3.00	2.66	.62
Use of interpersonal contacts to pass technical information	80	1.00	3.00	2.64	.64
Advice on use of input	80	1.00	3.00	2.54	.674
Supply of agrochemical	80	1.00	3.00	2.85	.45
Linkage to credit source	80	1.00	3.00	2.73	.59
Provision of equipment hiring service	80	1.00	3.00	2.58	.67

Table 3 shows the mean and standard deviation of extension services for educating rice farmers on depress economy for increased production. The results show that the farmers agreed that linkage to market (2.58±0.65), provision of inputs (2.73±0.73), radio/television extension programmes (2.55±0.61), provision of advice on marketing situations (2.69±0.59), creating awareness through electronic media (2.61±0.63), provision of technical advice (2.60±0.49), use of group contact to pass technical information (2.66±0.62), use of interpersonal contacts to pass technical information (2.64±0.64), advice on use of input (2.54±0.67), supply of agrochemical (2.85±0.45), linkage to credit source (2.73±0.59), and provision of equipment hiring service are extension services (2.58±0.67) for educating rice farmers on depress economy for increased production. On the other hand, the results show that the farmers agreed that method demonstration is not an extension service for educating rice farmers on depress economy for increased production.

Discussion

What is the requirement rate of extension services in enhancing rice farmers in Uzo-Uwani Local Government Area?

The results showed a higher percentage of farmers agreed that extension services programmes are always prevalent in Uzo-Uwani local government area. This finding agreed with Economic commission for Africa (2015) that extension services exist in communities and organized themselves and take charge of the empowerment of their growth and development. This help to develop group management skills in rice production.

What are the extension services required for enhancing rice farmers in Uzo-Uwani according to gender?

The results showed that the mean responses of female farmers of each item are higher than male counterparts in terms of whether the extension services are always prevalent. All in all, both female and male farmers agreed on the prevalence of extension services in Uzo-Uwani local government area. As stated by Kilic et al. (2015), there were significant variations in the use of agricultural inputs; tenure security and related investments in land and improved technologies; market and credit access; human and physical capital; institutional and cultural constraints affecting intra-household assignments of farm/plot management and marketing duties; and other factors. Gender differences in agricultural productivity across SSA ranged widely from 4% to 40%. Due to the gender gap, rice farmers do not receive the full benefit of the resources employed in their production, which lowers the ratio of self-sufficiency and decreases per capita food production (Global Rice Science Partnership, 2013). Shah and Kulkarni (2008) claim that a sophisticated understanding of the agricultural gender research interface in the context of poor nations can be gained from the discourse on gender roles and requirements, management and access capacities, and control over agricultural productivity. The different gender roles and activities affect the environment differently and have a different impact on gender. Men's and women's different use of productive inputs explain the inefficient intra-household allocation (Goldstein and Udry, 2008), as well as cultural, political and socioeconomic factors (Aguilar et al., 2015; Peterman et al., 2014). The changed gender play and activities affect the environment differently and have a different impact on gender that is woman are more in cultivating crop like rice in Uzo-Uwani local government area.

What are extension services for educating rice farmers on depress economy for increased production?

Extension services for educating rice farmers on depress economy for increased production. The results show that the farmers agreed that linkage to market, provision of inputs, radio/television extension programmes, provision of advice on marketing situations, creating awareness through electronic media, provision of technical advice, use of group contact to pass technical information, use of interpersonal contacts to pass technical information, advice on use of input, supply of agrochemical, linkage to credit source, and provision of equipment hiring service are extension services for educating rice farmers on depress economy for increased production. According to Yahaya (2008) found radio to be an excellent medium for mobilization, which has the capacity of drawing the attention of its diverse audience to new ideas coupled with techniques and latest information requiring urgent public attention. Other important extension services such as Method Demonstration were never accessed. This is consistent with IFDC (2008), which stated that farmers'

Method Demonstration was poor or none existent. This showed that extension service increases rice productivity in depress economy.

Conclusion

Information is very important resource for all agricultural activities, and therefore for anything and everything information is required. The findings of the present study revealed that the rice farmers in Uzo-Uwani local government area need various types of information for rice farming, and they use a number of information sources for farm production. Though there is need for assistance from agent's extension. Through this they acquire skills in modern technologies to increase rice production depress economy. Besides, lack of information services, lack of financial support, and inadequate number of extension staffs, information not easily accessible, and lack of awareness of information sources etc. have caused them problems in accessing agricultural information properly. There is need for government policy makers and other institution responsible to lay more emphasis on sustainable practices on information accessibility to rice farmers in Uzo-Uwani and also to disseminate information to them and address their information needs properly.

Recommendations

The study is extension services focused; therefore, the following recommendations were made:

• Government should make sure that there should be sustainable linkage systems between the extension services and farmers

•Government should provide all the extension services needed to farmers to increased rice productivity.

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