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RICE FARMERS' UTILIZATION OF AGRICULTURAL INFORMATION IN MOKWA LOCAL GOVERNMENT AREA OF NIGER STATE, NIGERIA

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Abstract

The study assessed Rice farmers' utilization of agricultural information in Mokwa Local Government Area, Niger State, Nigeria. Five wards were purposively selected using multistage sampling procedure. Eighty respondents were selected for the study. Data were obtained using questionnaire and was analyzed using descriptive statistics. The results revealed that the respondents in the study area were between the age range of 36-40 years old with mean age of 37 years, showing that they were active, energetic, and can withstand the farm operations. 78.80% of the [redacted] respondents are male and 21.30% are female. Also, 78.80% of the respondents were having formal education ranging from primary, secondary and tertiary education. The mean household size was 7 persons and mean income was ₦38,250:00K in the study area. The study revealed further that the 78.75% of the respondents were aware of agricultural information. The agricultural information need includes: pest, weed

Keywords: Utilization, Information, Agricultural, Mokwa, Niger, State

and disease management 45.00%, marketing 28.75%, access to farm machinery 26.25%, extension service 28.75%, source of credit 5.00% and post harvest management. The sources of information include: formal and informal. Using radio, television, friends and village heads. The constraints to use of agricultural information include: lack of trust on reliable information 5.00%, complexity of information 2.50%, limited access to information 5.00%, poor presentation of information 17.00%, out-dated information 6.00%, language barrier 11.00% and lack of awareness on available agricultural information 2.50%. Organizing workshops and training on awareness on the available agricultural information, provision of extension stations, and establishment of information centers in rural communities were offered as recommendations.

Introduction

Agriculture with its positive impact on the Nigerian populace is faced with multitude of problems among which is low utilization of technologies. The low utilization of technologies by the farmers may be ascribed to inadequacy of information. Information, in a broad context refers to organized data recorded in various forms (kayode and Odogba, 2022). Information could also be messages that are perceivable and recognizable value to the receiver. Information is therefore a raw resource for knowledge. In the agricultural sector, rice farmers need information about their farming activities. Lack of information on modern agricultural technology is a key factor limiting agricultural development in Nigeria. Low accessibility to agricultural information leads to low adoption of improved technologies, which invariably affects farmers" productivity and could lead to poverty. Utilization of improved farm practices requires adequate information, which has to be effectively disseminated so that the clientele receives it, understands it and regards it as a valid basis for action (Ozowa, 2019).

In agriculture, the role of information cannot be over emphasized in enhancing the agricultural development. Information is crucial for increasing agricultural production and improving marketing & distribution strategies (Emmanuel *et al*., 2016). Communication is critical to finding solution to problems of food production through facilitating research- farmer linkage using ICTs (Dauda *et al*., 2010). Information and Communication Technologies (ICTs) are foundation of the new

global information based economy. They are increasingly becoming the key drivers for socio-economic growth. Notably the role of information in farming is significantly meant to reduce the influences of risk and uncertainty-related factors. Kumudu et al., (2018) argue that to compete the global market today, our farmers should have latest information regarding new techniques of farming, new methods of cultivation, new crops, seeds, pesticides, water management, marketing of the product, government policies regarding agriculture, export potential of their crops. Non-availability of basic agricultural knowledge and information for rice producers in Mokwa Local Government Area of Niger State, Nigeria, will enable these farmers stick to their old traditional ways of farming system hence resulting in poor rice production. In view of the aforementioned, this study assessed rice farmers' utilization of agricultural information in Mokwa Local Government Area of Niger State, Nigeria. The specific objectives were to: i. describes the socio-economic characteristics of rice farmers in the study area, ii. determine the farmers' awareness on agricultural information in the study area, iii. examine agricultural information needs in the study area, iv. identify information sources on agricultural information in the study area; and v. identify the constraint to adoption of agricultural information by rice farmers in the study area.

METHODOLOGY

The study Area

The study was conducted in Mokwa Local Government Area, Niger State. Mokwa is located between Longitude 4° 45 "to 5° 45" E and Latitude 8°45" to 9° 40'' W and occupies a total land area of 4,338km2. The southern border is formed in the west beyond the East Kaduna River by the Jebba Lake Niger River. The population census for 2006 is 242,858, with a estimated population of 341,200 by 2016(NPC, 2010). Mokwa Local Government (LGA) is a Nupe kingdom comprising of 14 districts such as Muwo, Bokani, Kudu, Kpaki, Jebba, Rabba, Ja'agi, Mokwa, Gbajibo, Laboge, Takuma, Gbara, Ndayako and Muregi. The minority tribes are the Yoruba, Hausa, Igbo, Fulani and Gbagi. Mokwa LGA has two seasons: the dry and wet seasons, annual rainfall varies from 1000mm to 1200 mm. The average temperature between March and June and the coolest seasons are December and January. The area is famous for its traditional crafts, especially the processing of

raw materials such as fish, kaolin, clay, granite and silica sand. Crops grown include rice, yam, sorghum, maize, watermelon, mango and sugar cane (N.B.S., 2017).

Sampling Procedure and Sample Size

The sampling frame for the study comprises all the rice farmers in Mokwa Local Government Area of Niger State. Multistage sampling procedure was used to collect sample for the study. In the first stage, five (5) districts namely: Mokwa/Kinti, Mokwa/Rabba, Kede, Kusopa and Wuya/Muregi out of fourteen districts were purposively selected. The degree of rice production in the region served as the basis for purposive selection. In the second stage, two villages were selected from each of the selected districts to make a total of ten (10) villages. In the third stage, eight (8) respondents were selected randomly from each of the selected villages to make a total of eighty (80) respondents as sample size for the study (Table 1).

Table 1: Sampling Procedures, Sample size and Location of the Study

S/N.	Districts	Villages	Number of Respondents
1.	Mokwa/Rabba	Jebba, Rabba	16
2.	Mokwa/Kinti	Mokwa, Muwo	16
3.	Kusopa	Bokani, Kudu	16
4.	Kede	Jaagi, Iwafu	16
5	Wuya/muregi	Tsogi, Shegha	16
.	Total	10	80

Source: Field survey, 2023

Data Collection

Data for this study was obtained from primary source and secondary information. The primary data was collected with the aid of questionnaire which could be administered by the researcher and enumerators from the Mokwa Local Government agricultural extension department. The information on the following research specific objectives are included in the questionnaire: Socioeconomic characteristics of rice farmers in the study area, farmers' awareness of agricultural information, farmers' needs for agricultural information on rice production; sources of agricultural information for rice producers and constraints on farmers' use of agricultural information. The National Bureau of Statistics, journals, related

research and other pertinent publications were the sources of the information used in this study.

Data Analysis

Descriptive statistics, such as frequencies, percentages and means were used to analyze the study 'data. To accomplish the research specific objectives (ie objectives i through v.), frequencies, percentages and means were employed.

RESULTS AND DISCUSSION

Socioeconomic Characteristics of the Respondents

Table 2 shows that 36.75% of the respondents were between the ages of 36 and 45 years while 46.25% of the respondents were between the ages of 20 and 35 years with the mean age of 37 years in the study area. This suggested that the respondents in the study area are young, active and vivacious. This supports the statement made by Oduwole and Okorie (2010) that young men and women work as rice farmers nowadays..

Table 2 revealed that 21.3% of the respondents were female and 78.8% were male. This implies that male outnumbered the female in terms of farming in the study area. This testified that farming requires a lot of stamina, power and experience. Men undertook more arduous farming activities like clearing land, preparing it for farming while women and children handled easier work like planting, fertilizer application and processing of farm's output (F.A.O., 2003).

Table 2 indicates that 61.3% of the respondents were married, 37.5% single and 1.3% divorce. This implies that married farmers do practice agriculture as the majority of the rice farmers were married.

Table 2 shows that 2.37% of the respondents had household size within the range of 6-10 persons, 43.75% within 1-5 persons, 16.25% within 11-15 persons and 2.5% had more than 15 persons with the mean of 7 persons in the study area. This implies that the respondents have sufficient number of people as family labour to support agricultural production. The use of family labour lowers the farm labour expenses.

Table 2 revealed that 60% of the respondents had post secondary education, 21.3% had Qur'anic education, 12.5% had secondary education and 6.3% had primary education. This implies that the farm operations were carried out by educated and knowledgeable individuals in the study area. Their level of education helps them to acquired agricultural information for adoption of technology to enhance their farming activities.

Table 2 shows that 46% of the respondents cultivated rice as part-time occupation and 54% as full-time occupation. This implies that the respondents in the study area cultivated rice as full-time occupation. As such the respondents in the study area make use of farming as a occupation. Therefore, needs agricultural information to succeed on their farming practices.

Table 2 indicates that 10% of the respondents had farm size of less than 1ha and 90% had farm size ranging from 1-5ha with mean of 3ha in the study area. This implies that the respondents were small scale farmers who grow rice using locally made tools. Farm size is a crucial factor in determining how resources are allocated (Musa, 2010).

Table 2 shows that 37.5% of the respondents acquired their farmland by inheritance, 27% by purchase, 18.8% by gift, 11.3% by rent and 5% by Government. This implies that majority of the farmland were acquired through inheritance. This further implies that farmlands are passed down from generation to generation in a constant manner. Therefore, it is challenging to invest in farm in the study area due to constant fragmentation of farmlands.

Table 2 revealed that 37.5% of the respondents had 1-5 years as their farming experience, 15.75% had 11-15 years and 25.0% had more than 15 years with mean of 9 years of farming experience in the study area. This implies that the respondents have been farming for a long time using traditional farming methods. The respondents in the study area need agricultural information in order to modernize their farming practices by employing technology to improve on their productivity and raise the standard of living in the community.

Table 2 indicates that 37.50% of the respondents had annual income between ₦21,000-₦30,000 annually, 25.00% between ₦31,000-₦40,000, 25.00% between ₦10,000-₦20,000, 12.50% between ₦41,000-₦50,000 annually with the mean annual income of ₦38,250:00K in the study area. This implies that the respondents require financial assistance to pay for farm expenses ranging from farm inputs to labour to improve on their welfare.

Table 2 shows that 56.25% of the respondents had extension visits once a month, 31.25%, had twice a month, 12.50% thrice a month during their farm operations. This implies that respondents were receiving extension visits during their farming activities. The agricultural information passed by the extension agents to respondents in the study area enhances their farming activities and ensure food availability.

Table 2: Socioeconomic Characteristics of the Respondents (n=80)

Variable	Frequency	Percentage	Mean
Age (years)			
20 – 35	37	46.25	
36 – 45	31	38.75	**37 years**
46 – 60	11	13.75	
>60	1	1.25	
Sex			
Male	63	78.8	
Female	17	1.25	
Marital status			
Single	30	37.5	
Married	49	61.3	
Divorce	1	1.3	
Household size (persons)			
1 – 5	35	43.75	
6 – 10	30	37.5	**7 persons**
11 – 15	13	16.25	
>15	2	2.5	
Educational level			
Qur'anic education	17	21.3	
Primary education	5	6.3	
Secondary	10	12.5	
Tertiary education	48	60.0	
Farming experience (years)s			
1 – 5	30	37.5	
6 – 10	15	18.75	
11 – 15	15	18.75	**9 years**
>15	20	25.0	
Occupation			
Full-time farmer	43	53.8	
Part-time farmer	37	46.3	
Farm size (ha)			
<1	8	10.0	
1 – 5	72	90.0	**3 ha**
Source of farmland			
Purchased	22	27.5	
Gift	15	18.8	
Rent	9	11.3	
Inheritance	30	37.5	
Government	4	5.0	
Annual income (₦)			
10,000 – 20,000	20	25.00	
21,000 – 30,000	30	37.50	**₦38,250:00K**
31,000 – 40,000	20	25.00	
41,000 – 50,000	10	12.50	
Extension visits (no. visits)			
Once a month	45	56.25	
Twice a month	25	31.25	
Thrice a month	10	12.50	

Source: Field survey, 2023

Awareness and Duration of Agricultural Information

Table 3 shows that78.75% of the respondents were aware of agricultural information. This implies that the respondents in the study area were fully informed on agricultural information. Farmers that are aware of agricultural information are better in adapting technology for increase production.

Table 3 revealed that 60% of the respondents were aware of agricultural information within the period of 1 – 5 years, 21.25% within the period of 6- 10 years, 16.25% within the period of 11 – 15 years and 2.50% in more than 15 years with the mean of 8 years of agricultural information in the study area. The more the number of years on agricultural information, the more the awareness on technology adoption and utilization.

Table 3: Awareness and Duration of Agricultural Information (n=80)

Variable	Frequency	Percentage	Mean
Awareness			
Aware	63	78.75	
Not aware	17	21.25	
Duration (years)			
1 – 5	48	60.0	
6 – 10	17	21.25	
11 – 15	13	16.25	**8 years**
>15	2	2.50	

Source: Field survey, 2023

Agricultural Information needs in Rice Production

Table 4 revealed that 48% of the respondents need information for managing pests, weeds and diseases. 28.75% for marketing, 26.25% accessing farm machinery, 33.75% for storage and facilities; 20.0% for cooperatives, 28.75% for extension services,18.75% for improved rice seed and 21.25% for planting operations and soil fertility management. This implies that for the farmers to increase in production and improve on their standard of living agricultural information in all aspect of crop cycle is required.

Table 4: Distribution of Respondents based on Agricultural Information needs (n=80)

Agricultural Information	Frequency	Percentage
Pests, weed and diseases management	36	45.00
Marketing	23	28.75
Access to farm machinery	21	26.25
Storage facilities	27	33.75
Cooperative societies	16	20.00
Extension services	23	28.75
Improve rice seed	15	18.75
Source of credit	12	15.00
Seed management	11	13.75
Improved rice seed management techniques	23	28.75
Post-harvest management techniques	8	10.00
Planting operations and soil fertility management	17	21.25

Source: Field survey, 2023

Sources of Agricultural Information

Table 5 shows that two sources of information namely: formal and informal. The formal source reveals that 38.75% of the respondents obtained information from radio, 22.5% from television, 20% from internet,22.5% from cooperatives, 28.75% from extension agencies and 23.75% from scientific research institutes; 17.50% from Universities, 13.75% from newspapers and 5% from movies, posters and screenings. The informal source of information shows that 45% of the respondents obtained agricultural information from village chief, 18.75% from religious leaders; 16.25% from relatives and friends, 12.50% from market, 17.0% from colleagues and 3.75% from private sector. This implies that the respondents in the study area have a large number of sources of agricultural information. This will enable them to farm better, produce more and improve living conditions using the existing technologies.

Table 5: Respondents based on the Sources of Agricultural Information (n=80)

Variable	Frequency	Percentage
Formal sources		
Radio	31	38.75
Television	18	22.50
Internet	16	20.00
Cooperatives	18	22.50
Extension agents	23	28.75
Research institutes	19	23.75
Universities	14	17.50
Newspapers	11	13.75
Poster and film show	4	5.00
Informal sources		
Village head	36	45
Religious leaders	15	18.75
Friends	13	16.25
Relatives	13	16.25
Market place	10	12.50
Colleagues	14	17.50
Non-governmental Organization	3	3.75

Source: Field survey, 2023

Constraints to use of Agricultural Information

Table 6 revealed that 26.25% of the respondents were limited by insufficient dissemination of agricultural information, 21.25% by poor knowledge, 25.00% by insufficient fund; 17.50% by poor expression of information, 6.25% by outdated information; 7.50% by cultural influence, 11.00% by language barrier, 2.50% lack of existing agricultural information; 5.00% by limited access to agricultural information, 2.50% by complexity of the information and 5.00% lack of trust on reliable information. This implies that lack of fund is the fundamental element limiting the acquisition of modern information dissemination equipment like phones, internet, you tube etc.

Table 6: Distribution of Respondents based on Constraints

Constraint	Frequency	Percentage
Inadequate information dissemination	21	26.25
Poor knowledge on information	17	21.25
Inadequate fund	20	25.00
Poor presentation of information	14	17.50
Out-dated information	5	6.25
Cultural influence	6	7.50
Language barrier	9	11.00
Lack of awareness on available information	2	2.50
Limited access to information	4	5.00
Complexity of the information	2	2.50
Lack of trust on reliable information	4	5.00

Source: Field survey, 2023

CONCLUSION AND RECOMMENDATIONS

The findings from the study show that the respondents in the study area were within productive age group, male, married with the mean of 7 persons as household size. The respondents were educated and agricultural information was known for an average of 9 years. The agricultural information needs include information on pests, diseases, market; use of agricultural machinery, storage facilities; Cooperatives services and improve rice seeds. The sources of agricultural information were formal and informal. The constraints faced by the respondents were insufficient fund, insufficient information sharing, limited access to agricultural information; complexity of the information and lack of trust on the authenticity of agricultural information.

The recommendations derived from the study are:

1. Government should organize workshops and training on the available agricultural information.
2. Rural communities should create information centers to receive agricultural information on the right time.
3. Extension services should be enhanced especially in the rural areas to carter for the dissemination of agricultural information
4. Farmers should form cooperatives societies make fund available the purchase of information equipment to enhance information gathering.

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