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Descriptive Analysis of the Socio-Economic Features of Rice Farmers in Gulani Local Government Area, Yobe State, Nigeria

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ABSTRACT
The study analyses and describes the socioeconomic characteristics of rice farmers in Gulani Local Government Area of Yobe State, Nigeria. Primary data were collected through the use of structured questionnaires to obtain required information from the respondents. Multistage sampling techniques, involving purposive and systematic sampling techniques were employed in the selection of the respondents from the total population of 570 rice farmers in the five wards obtained from NECAS Yobe state office (2019), Descriptive statistics such as frequency distribution and percentages were used for data analysis. The findings revealed that most farmers were male(82.7%) ranges between31-40 years(44.5%) and married(75.5%) and mostly have secondary education(34.5%) with farming experience between 16-20 years(37.6%), the source of labour were family labour (33.8%) and 73.4% of the respondents had no access to extension agents among others. The study also recommends that government and other stakeholder should encourage female farmers to participate actively in rice production and enhanced frequency of extension visits to enable the farmers have constant contact with the agent to relate their field problems for advice and solution.
Keywords: Socio-Economic, Features, Rice, Farmers

1.0 INTRODUCTION

Rice is one of the major cereal crop originated from India and is generally consumed in the world. According to the FAO food and agriculture organization (2000), more than half of the world population depend on rice for 80% of the food need. Also, rice is the second highest cereal crop produce worldwide after Wheat. About 512.4 million tons of milled rice is produced annually as reported (Childs and LeBeau, 2022). In Africa rice is currently cultivated in lowland, rain fed upland and aquatic ecologies in most of the African countries on nearly 10 million ha (Zenna *et al*, 2017), but due to outdated production systems, biotic and abiotic constraints as well as low investment in production technologies, only 60% of the consumer demand is met through local production. Many countries in Africa now have national strategic plans and favorable policies for increasing production to meet local demand and export in Africa, high producing countries include, Nigeria, Egypt, United Republic of Tanzania, Madagascar, Mali, Guinea, Coted'ivoire, democratic Republic of Congo, Senegal, Sierra Leone, Ghana, Benin and Burkina Faso. (Mukasa et al 2017)

Rice is a leading staple crop in Nigeria, rice farming started since 1500BC with low yield indigenous red grain variety "*oryza glaberrima*" (Hopkins, 1973; Ogundele and Okoruwa, 2006). Presently, rice is

cultivated in all the six geo political zones in Nigeria, States with the highest production rate are Kebbi, Benue, Ebonyi, Ekiti Jigawa Kaduna, Kano, Ogun, Niger and Cross River State. The demand for rice in Nigeria has been increasing at a much faster rate than any other African country due to population growth, increase in income and urbanization that changed consumer preference. Presently the quantity of rice consumed in Nigeria is about 6.7 million metric tons Enagi, (2022). Although the paddy harvested has not kept pace with demand because of the over dependent on traditional method of production characterized by poor yield and inefficiency result to loss of employment opportunities to the teeming youth, currency drain and depletion of the nation's foreign reserves. In order to bridge the gap between demand and supply and the ever growing population; the federal government of Nigeria has initiated policies and incentives for farmers to increase rice production locally.

Rice farming in Yobe state is mainly dominated by smallholder farmers who cultivate small hectares of land using primitive method of farming such as use of local seeds, mug fertilizer and poor post-harvest handling. However low acceptance and adoption of modern agricultural technologies by the farmers have stifled them to gain from productivity growth, so there is need to motivate farmers to increase their crop yields and generate employment opportunities through adoption and acceptability of improved seed. These are the interventions programmes to promote rice production in Gulani Local Government Area include North east commodity association programme, International fund for agricultural development (IFAD) rice intensification programme and food and agriculture organization of the united nations (FAO). It is against this backdrop that this study intends to assess the socioeconomic features of smallholder farmers Gulani local government area.

2,0 LITERATURE REVIEW

Socioeconomic Characteristics of Rice Farmers

i. Age

Sheshiand Usman (2018) investigated the increasing rice production through adoption of improved variety in Niger State. The result revealed that the mean age of the respondents was 43 years. Shaibu and Shaibu (2017) in a paper tittle "Adoption determinants of improved farming technologies: an assessment of rural rice farmers in Kogi state, Nigeria". The findings of the study showed that 74.2% of the farmers were male with an average age of 44 years. Umar, Hali and Bunza (2019) assessed the factors influencing adoption of improved rice production technology (IRPT) under Anchor Borrower Programme (ABP) Kebbi State. The results of the study shows that about 35.8% of the farmers fall within the age range of between41–50years.

ii. Gender

Arimi and Olajide (2016) studied the differences between male and female adopter of improved rice production technology in Ogun and Ekiti States using t-test and the factor analyses. The outcome of the study revealed that there was significant difference between male and female farmers' adoption of improved rice production technology in the study areas. Similarly, Shaibu and Shaibu (2017) report that 74.2% of the farmers were male. In a study "Adoption determinants of improved farming technologies: an assessment of rural rice farmers in Kogi state, Nigeria". Nur Shuhamin and Norsida (2016) identified farmers' acceptance and practices on new paddy seed variety in MADA granary area in Kedah Malaysia. The results show that socio- demographic of respondents represents 93.2% of respondents are male and the rest of 6.8% are female farmers.

iii. Farm size

Mwatawala, Mwang'onda and Hyera (2016) investigated the paddy production in Southern Highlands of Tanzania: Contribution to household income and challenges faced by the paddy farmers in Mbaradi district. The findings indicated that the mean farm size was 0.86 acre and paddy yield was 1611kg/acre. Shaibu and Shaibu (2017)Adoption determinants of improved farming technologies: an assessment of rural rice farmers in Kogi state, Nigeria. The findings of the study showed that rice farmers operated on an average farm size of 2.7 hectares.

iv. Marital status

Nur Shuhamin and Norsida (2016) studied the acceptance and practices on new paddy seed variety among farmers in Mada granary area in Kedah Malaysia. Results for the marital status of the respondents, there were 64.4% are married, 15.6% are single and 20% are widow and widower. Onyekene (2017) examined the determinants of improved technologies in rice production in Imo State, Nigeria. The results obtained showed that majority 76.30% of the respondents were married.

v. Education level

Umar, Hali and Bunza (2019) assessed the factors influencing adoption of improved rice production technology (IRPT) under Anchor Borrower Programme (ABP) Kebbi State. The results of the study shows that the level of education of the respondents shows that majority (47.3%) had secondary education, while 17.5% had primary education. Umar *et al* (2014) analyzed the socio-economic and farm level characteristics influencing adoption of rice production technologies in Lavun Local Government Area of Niger state. The results reveal that 40.78 percent of the respondents acquired one form of formal education or the other ranging from primary to tertiary education.Nur Shuhamin and Norsida (2016) studied the acceptance and practices on new paddy seed variety among farmers in Mada granary area in Kedah Malaysia. The results show that socio- demographic of respondents in MADA area 29.6% respondents went to primary schools while about 50.8% went to secondary schools. Meanwhile, 12.4% had college/university education and only 7.2% did not get any formal education.

vi. Household size

Umar, Hali and Bunza (2019) assessed the factors influencing adoption of improved rice production technology (IRPT) under Anchor Borrower Programme (ABP) Kebbi State. The results of the study shows that about Household size of the respondents indicated that 28.3% and 23.3% of the respondents had between 6–10 and 16–20 numbers in their house hold. Onyekene (2017) examined the determinants of improved technologies in rice production in Imo State, Nigeria. The results obtained showed that the average household size of the farmers was 10 persons.

vii. Farming experience

Shaibu and Shaibu (2017)Adoption determinants of improved farming technologies: an assessment of rural rice farmers in Kogi state, Nigeria. The findings of the study showed that 74.2% of the farmers were male with an average age of 44 years. Rice farmers in the area had a mean farming experience of 27 years. Onyekene (2017) examined the determinants of improved technologies in rice production in Imo State, Nigeria. The results obtained showed that the average rice farming experience in the study area was 18 years.

viii. Membership of association

Onyekene (2017) examined the determinants of improved technologies in rice production in Imo State, Nigeria. The results obtained showed that 74.07% of the respondents are members of cooperatives. Moreover Chekene and Chancellor (2015) studied the factors that affect adoption of improved rice varieties in the southern part of Borno State. The result revealed that 66% of the adopters of the improved rice varieties are members of association. Also Mbavai *et al* (2019) in their study the factors influencing the adoption of improved cowpea varieties in the Sudan Savannas of Northern Nigeria fund that 50% of the adopters are members of farmers' associations

ix. Annual income

Antwi and Aborisade (2017) observed the profitability of rice production among small-scale rice producers in Ghana, the author used structured questionnaire and a multistage sampling g technique to collect data from 320 small-scale rice farmers drown from five communities from the district. Data were analyzed using non parametric statistics, farm budgeting technique and normalized profit function model. The findings revealed that a mean gross margin of GHS 895, a net of GHS536and a BCR of 1.56 this showed that rice production was a profitable enterprise. Mwatawala, Mwang'onda and Hyera (2016) investigated the paddy production in Southern Highlands of Tanzania: Contribution to household income and challenges faced by the paddy farmers in Mbaradi district. The findings indicated that the income earned from paddy production was TZS670742.7. Sheshiand Usman (2018) observed the Increasing rice production through adoption of improved variety in Niger State, The mean income was ₦675, 000.00 ($

1,824.32); this led to empowerment of the respondents in the areas of attending to family welfare needs (89.66%),

3. METHODOLOGY

3.1 The Study Area

The study was carried out in Gulani LGA, in the southern part of Yobe state, Nigeria. The Local Government headquarters is located in Bara which is located on latitudes 10°58'N and 53.07"N and longitudes 11°39'E and 40°.65''E. It covers an area of 2,090 km^2 and a projected population of 146,900 (National Population Commission, NPC, 2016). The study area has annual rainfall ranging from 500mm-1000mm which lasts for six months from May to October (Nimet, 2018).

3.2 Method of Data Collection

Primary data were collected through the use of structured questionnaires to obtain required information from the respondents. Field assistants were trained specifically for this research and used in administering the questionnaire. The questionnaire has been translated in to Hausa language for easy administration, since most of the farmers don't understand English and it has been checked by the language expert.

3.3 Sampling Technique

Multistage sampling techniques, involving purposive and systematic sampling techniques where employed in the selection of the respondents for the study. The first stage involved purposive selection of Gulani Local Government area of Yobe State, being one of the predominant areas of rice production. The second stage involved the selection of five district wards out of the twelve wards in the study area, because there is high density of rice farmers in these wards. The third stage also involved systematic sampling procedure to select the respondents from the total population of 570 rice farmers in the five wards obtained from NECAS Yobe state office (2019), which served as the sampling frame, the sample size for this study was determined using a published table for selecting sample sizes by Israel (1992), who recommended that for a population of 600 a sample size of 240 is considered appropriate at ±5%, precision level where confidence level is 95%. The sample size of 240 was distributed among the five wards using a formula recommended by Krejcie and Morgan (1970).

$$\frac{N \times S}{TP}$$

Where:

N = Number (population of each ward), S = Sample (total sample size) TP = Population of rice farmers

4, RESULTS AND DISCUSSION

This section presents the results and discussion of the research findings. The data collected were summarized and analyzed based on the objective of the study.

4.1 Socio-Economic Characteristics of the Respondents

This provides information on the descriptive analysis using frequency and percentage distribution of respondents. Out of the two hundred and forty (240) copies of questionnaires administered and only two hundred and thirty seven (237) were retrieved. As presented in Table 4.1 below.

Table 4.1 Socio-Economic Characteristics of the Respondents n= 237

Variables	Frequency	Percentage (%)
Gender		
Male	196	82.7
Female	41	17.3
Age (in year)		
Less than or equal 20	5	2.1
21-25	16	6.8
26-30	85	35.9
31-40	106	44.7
41 and above	25	10.5

Marital Status		
Unmarried	35	14.8
Married	179	75.5
Widow	10	4.2
Divorced	10	4.2
Separated	3	1.3
Level of Education		
Primary	14	5.9
Secondary	84	35.4
NCE/OND	39	16.5
HND/B.Sc.	20	8.4
Islamic School	40	16.9
Never Been To School	40	16.9
Household Size		
Less than 5 members	60	25.3
5-10 members	121	51.1
11-15	42	17.7
16 and above	14	5.9
Farming Experience		
1-5 years	14	5.9
6-10 years	37	
11-15	52	15.6
16-20	89	21.9
21 and above	45	37.6
Continuation of table 4.1		19.0
Source of Farmland		
Owned	92	38.8
Rented	96	40.5
Temporary Allocated	45	19.0
Shared Cropping	4	1.7
Farm Size		
Less Than 1 Acre	19	8.0
2-3	86	36.3
4-5	97	40.9
6 And Above	35	14.8
Labour		
Family labour	80	33 .8
Hired Labour	42	17.7
Both	115	48.5
Annual Income		
<200,000	12	5.1
200,000-400,000	25	10.5
400,001-500,000	54	22.8
500,001-700,000	76	32.1
700,001-800,000	43	18.1
8000,001-1,000000	17	7.2
>1,000000	10	4.2
Access to Extension Agent		
Yes	63	26.6
No	174	73.4
Source of Information		

Fellow Farmers	113	47.7
Media (Radio)	17	7.2
Farmers field school	65	27.4
Farmers Association	42	17.7
Total	**237**	**100.0**

Source: Field survey, 2026

4.1.1 Gender: The result in Table 4.1, showed that male rice farmers were 82.7% as compared to 17.3% female rice farmers. The results showed that there are more male rice farmers than female farmers in the study area. Women are mainly involved in playing supportive role in certain aspects of rice production such as processing but there are few ones that are active in rice production. However, the predominance of males in rice farming may be connected with socio-cultural and religious values in the study area, which emphasize women's role s as managers of household activities and agricultural processing. This agrees with the finding of Bruce, Donkoh and Ayamga (2014) which stated that 75.4% of respondents were male farmers.

4.1.2Age: The age distribution of the respondents indicated that 2.1% of the improved rice variety adopters were within the age range of less than 20 years and 44.7% fall between age bracket of 31 -40 years. This therefore shows that most of the respondents were in their active age group of 31-40 years. This implies that the respondents could be willing to adopt new rice technology and capable of enduring the hardship pertaining adopting improved rice production practices.

4.1.3 Marital status: The result further reveals that 75.5% were married, while1.3% of the adopters are separated. The dominance of married men in rice farming, this is due to the fact that they have larger families and larger responsibilities and require more cash for education and food and therefore, adopt new technologies faster to increase productivity and income. This agrees with Saliu *et al.,* (2016) that 80.0% of the respondents were married.

4.1.4Level of Education: Table 4.1 showed that 5.9% of adopters had first school leaving certificate, while 35.4% of the respondents were discovered to have secondary school education. This implies that lack of formal education could have serious implications on their ability to access information, use new technology innovations and even access or get credit from formal financial institutions. While adopters with higher level of literacy and formal education would be more inclined to readily accept technological changes in their farming occupation. Expectedly, well-educated farmers have human capital to more fully understand and utilize information than those without formal education. The literacy level helps the farmers to uptake improved rice production practices faster. This is line with the study of Umar *et al.,* (2019) which shows that majority 47.3% of the respondent had secondary education.

4.1.5 Household Size: The study reveals that 51.1% had a family size between 6 to 10 memberand 5.9% of the respondents had 16 and above family members. The number of people in a household is one of the factors that influence the adoption of the technology, the bigger the size of the family in a household the higher the chances of adoption as labour accessibility increases, adoption is also expected to increase, activities like land preparation, planting, fertilizer application up to harvesting was highly labour intensive.

4.1.6Farming Experience: Results indicates that some (5.9%) of adopters were found to have between 1-5 years of rice farming experience while 37.6% fall within 16-20 years of experience. This implies that the respondent who have been in rice farming for more than sixteen years are more likely to adopt new technologies faster. This implies that virtually all the farmers have been in rice farming profession for quite some period of time and are not new in farming activities, because experience is said to be best teacher, and it enables farmers learn to overcome the problems faced in the previous years. This finding is in line with the findings of Issa, Kagbu and Abdulkadir (2016), who observed that 31.7% of the respondents have 20-29 years of experience.

4.1.7 Source of land: The results in Table 4.1 exposed that the majority (96%) of the adopters rented their rice farmlands. The high proportion of the rice farmers who rented their farmland could be due to the large proportion of migrant farmers in the study, only 1.7% acquired their farm through shared cropping.

The findings is in conformity with the findings of Awotide (2012), which reveal that 7% of the respondents are owners of their farm land**.**

4.1.8Farm size: The findings showed that some proportion of adopters (31.3%) used 2.1 – 3.1acres of land for rice production, while few (26.5%) had used between 3.2 and 4.1 acres. This implies that there was limited land for rice production in the study area, farmers that have more farm size tend to adopt technologies more than those that have limited farm size. Farmers with larger farms are likely to be better informed, be able to take larger risks associated with early adoption and have more opportunities to experiment. The findings this study is in consonance with the study of Umar *et al.,* (2016).

4.1.9 Source of labour: Labour is an important factor in production process, as reveal from the Table 4.1 above 33.8% of the farmers used their family members as their source of labour, while 17.7% of the respondents used hired labours and 48.5% used both as their source labour.

4.1.10Membership of Association: The analysis of years of being an active member of farmers' association revealed that 48.9% are active members, while 51.1% of the adopters are not member of farmers' association. The result is an indication that membership of association has positive relationship with the adoption of rice package, which is in conformity with the findings of Donkor *et al.,* (2018).

4.1.11Access to Extension services: The results obtained shows that most smallholder farmers in the study area have not accessed extension services on modern agricultural technologies. Since, 73.4% of the respondents said they have never accessed extension services on modern agricultural technologies only 26.6% of the smallholder farmers who responded agreed to have accessed extension services before. This is similar to the findings of Chekene (2015), which observed that 67% of the respondents do not have access to extension services.

4.1.12Sources of Information: The results revealed that 47.7% of the adopters received information about the improved rice variety from fellow farmers, while 7.2% received first information about the improved rice variety from media (radio). Agricultural research information is vital in keeping the farmers on modern trends of agricultural practices. This shows that there is weak extension service delivery as majority of the respondents received information from fellow farmers as reported by Ibrahim (2014).

4.1.13Annual Income: Income of the household from the Table above (32.1%) of the respondents has annual income of 500,001-700,000 while (4.2%) of them has >1,000,000 has their income. It is in consistence with findings of Andrimi and Olajide (2016) which reported that majority of respondents are low income earners because they mainly earned income from farming activities and personal savings.

5. CONCLUSION AND RECOMMENDATIONS

5.1 Conclusion

The study concludes that most farmers were married men with secondary education and had little or no access to extension visits with the farming experience between 16-20 years and their main source of information were fellow farmers among others.

5.2 Recommendations

The study also recommends that government and other stakeholder should encourage female farmers to participate actively in rice production and enhanced frequency of extension visits to enable the farmers have constant contact with the agent to relate their field problems for advice and solution among others.

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